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ABSTRACT

This fourth volume in the series provides a systematic description of the situation of teachers and trainers in vocational education and training (VET) in five European countries: Denmark, Finland, Iceland, Norway, and Sweden. Each country report begins with an outline of the national context--the country's geographical features and the ethnological composition of its population; cultural history and religious considerations are included where they are relevant to VET. A brief description follows of the overall education system of which VET is a part. The next section of each report examines the VET system within which the teachers and trainers who are the subject of this publication serve. The following section describes the teaching and training faculty--in quantitative and qualitative terms to the extent that the relevant information is available--and an account of teachers' and trainers' legal standing, rights, and duties and also those of the teacher unions and other professional organizations that work on their behalf. The final substantive sections explore the inservice and continuing training opportunities open to teachers and trainers in VET and possibilities for career advancement. A separate section lists the addresses of institutes associated in some way with the initial or continuing training of teachers or trainers in VET. Finally, each country report presents a list of acronyms and abbreviations used in the text. (YLB)

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CEDEFOP

Teachers and trainers in vocational education and training

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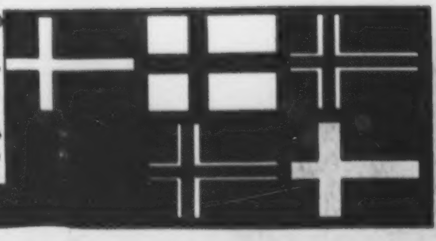

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Teachers and trainers in vocational education and training

Volume 4: Denmark, Finland, Iceland, Norway and Sweden

Project coordinator: Peter van Engelshoven
Project manager: Duccio Guerra

First edition, Thessaloniki 1997

This book was written on behalf of CEDEFOP by
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Preface

Two new volumes CEDEFOP, the European Centre for the Development of Vocational Training, publishes almost simultaneously two new volumes in the series 'Teachers and Trainers in Vocational Training': volumes 3 and 4 report on teachers and trainers in vocational education and training (VET) in 10 European countries. This volume 4 contains the Cartography Studies on teachers and trainers in VET in Denmark, Finland, Iceland, Norway and Sweden.

Systematic approach To facilitate understanding, the position of teachers and trainers in VET is seen within a wider framework:

- the national education system is described against the backdrop of the national geographical, ethnological, historical and economic context,
- which shows in all cases that vocational education forms the tailpiece of the education system
- and that the situation of teachers and trainers in vocational education and training is shaped by the background contexts described while
- these teachers' and trainers' own initial education and training is strongly geared to the prevailing education culture.

This structure is adopted in all five country-chapters of this volume 4.

The authors The authors of these Cartography Studies are national experts, and most are affiliated to institutes which train teachers and trainers for VET. Their collective involvement in this project has laid the structural foundations for operating a European network of institutes providing training for teachers and trainers in VET, a task which CEDEFOP has undertaken to accomplish during the next few years. Each author bears responsibility for his/her own country study but also helped correct and improve the manuscript submitted by a colleague of volume 3 from another country. The five studies in Volume 4 were produced as follows:

Country	Author(s)	Revised in collaboration with
Denmark	Jette Harrebye and John Houman Sorensen	Stamatis Paleocrassas, EL
Finland	Matti Taalas	Derk Oddens, NL
Iceland	Gunnar Finnbogason	Jerry Lenert, L
Norway	Ellen Bjerknes	Albert de Winter, B
Sweden	Bengt Petersson	Hanspeter Tusch, A

Coordination The manuscripts were co-ordinated and the production process managed by Peter van Engelshoven of Fontys PTH-contract, Eindhoven, NL. Peter van Engelshoven is a member of the steering committee for CEDEFOP's task unit 'Training of Trainers'.

Acknowledgement The authors and co-ordinator are grateful to Ms Linda Mayes, Berlin, for checking the final manuscript for language errors.

Thessaloniki, Summer 1997

1 Introduction

CEDEFOP

CEDEFOP (acronym for Centre Européen pour le Développement de la Formation Professionnelle) is the European Centre for the Development of Vocational Training. The Centre is governed by a Management Board on which each EU Member State is represented by three board members representing the government, employers and employees respectively.

In 1995, the Centre relocated from Berlin to Thessaloniki.
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1.1 Activities of CEDEFOP

The geographical area to which the Centre's activities relate is limited to the Member States of the European Union and some EFTA countries such as Norway and Iceland.
The role of the Centre is to assist the European Commission in promoting the development of vocational training and in-service training at Community level and to contribute to the policy-making work of the other groups and bodies represented on its Management Board - the Member States and the social partners. The Centre fulfils this role mainly by promoting an exchange of information and comparing experience on issues of common interest to the Member States.

The Centre aims to bridge gaps between research, policy-making and practice by helping policy-makers and practitioners at all levels in the European Union acquire a clearer understanding of the developments taking place in vocational education and training. This insight should serve as a sound basis for decisions on future action. Another aim is to encourage scientists and researchers to identify and track existing and future trends and to promote research on issues which are of relevance for policy-makers.

As part of the recent effort to renew and refocus the Centre's activities, the Management Board agreed on a set of medium-term priorities for the period 1997-2000 and selected three fields of particular interest:

- promoting competence and lifelong learning,
- monitoring developments in vocational education and training in the Member States,
- facilitating mobility and exchange schemes within Europe.

1.2 Activities and task units

The Centre's annual work programme presents an overview of all activities planned within the framework of the above-mentioned priorities for the corresponding calendar year. The work programme is adopted annually by the Management Board.

The activities set out in the work programme are allocated to task units, each task unit being managed by a CEDEFOP expert with organizational, financial and co-ordination responsibilities. The following fields, inter alia, are handled by separate task units:
- impact of information technology on curricula and qualifications,
- accreditation of prior learning,
- core skills and curriculum reform,
- European research directory,
- financing of continuing vocational training.

The Centre's relocation from Berlin to Thessaloniki resulted in management vacancies in several task units which are presently (1997) being filled or reassigned.

1.3 The 'Training of Trainers' task unit

The 'Training of Trainers' task unit aims to apply the Centre's primary mission of development to the initial and continuing training of teachers and trainers in vocational education and training. This task unit's work programme for 1997 includes:
- publication of a 'Brief Guide' to institutes providing training for teachers and trainers in VET in the countries falling within the Centre's remit;
- synthesis of previous studies on the function of the training manager in medium-size enterprises;
- development of so-called Cartography Studies on teachers and trainers in vocational education and training in 10 European countries, namely Austria, Belgium, Denmark, Finland, Greece, Iceland, Luxembourg, the Netherlands, Norway and Sweden;
- establishment of a European network of institutes providing training for teachers and trainers in VET, including organising an annual two-day conference for network contributors.

The management vacancy which arose in the 'Training of Trainers' task unit with the departure of Ms Africa Melis was filled temporarily by Mr Pekka Kämärären, who was assisted by a steering committee of field members composed of:
- Ms Anne De Blignieres-Legeraud, Université Paris-Dauphine, F,
- Mr Reinhard Selka, BIBB, Berlin, D,
- Mr Brendan Harpur, FAS, Dublin, IRL,
- Mr Peter Van Engelshoven, Fontys PTH contract-Eindhoven, NL,
- Mr Adolfo Hernandez, INEM, Madrid, E.

The organization and co-ordination of the ten Cartography Studies mentioned above was entrusted to Peter van Engelshoven.

In March 1997 Mr Duccio Guerra was appointed manager of this task unit and now heads its office in Thessaloniki.

2 Scope of this publication

This publication provides a systematic description of the situation of teachers and trainers in VET in five European countries (Denmark, Finland, Iceland, Norway and Sweden).

Each country report begins with an outline of the national context - the country's geographical features and the ethnological composition of its population; cultural history, religious considerations and economic developments are also included where they are relevant to vocational education and training. This is followed by a brief description of the overall education system of which vocational education and training is a part. The next section of each report examines the vocational education and training system within which the teachers and trainers who are the subject of this publication serve. There then follows a description of the teaching and training faculty - in quantitative and qualitative terms to the extent that the relevant information is available - and an account of teachers' and trainers' legal standing, their rights and duties, and also of the teacher unions and other professional organizations which work on their behalf. The final substantive sections explore the in-service and continuing training opportunities open to teachers and trainers in VET and possibilities for career advancement.

In order to ensure that this publication -like the others in the series- contribute to the structuring of the network of European institutes providing training for teachers and trainers in VET which CEDEFOP intends to establish, high priority has been attached to providing detailed lists of addresses and reference material. A separate section in each report lists the addresses of institutes associated in some way or other with the initial or continuing training of teachers and trainers in VET. Owing to the rapid pace of developments in this field in several countries, however, it is possible that this information will already be out of date or incomplete by the time the reader consults the publication.

Finally, each country report presents a list of the acronyms and abbreviations used in the text; the full designation is also given at each' first usage.

To summarise, each country study adheres to the following structure:

1. Introduction
2. Initial vocational education and training
3. Teachers and trainers in VET
4. Regulations governing teachers and trainers
5. Training paths leading to qualification as a teacher or trainer
6. Initial training of teachers and trainers
7. Continuing training of teachers and trainers
8. Useful addresses
9. Institutions and courses
10. Sources and references
11. Acronyms and abbreviations

3 The target readership

As in the case of volumes 1 and 2 in this series, these reports make no claim to being of scientific merit; instead, they are intended to be of practical value to:

a) Teachers and trainers in VET who want to compare their position with that of colleagues in other countries; the publications have aimed to cover all areas of interest arising in this respect.

b) Trainers of teachers and trainers in VET who seek basic information on training programmes in the countries under review; those seeking more detailed information can contact partner institutes at the addresses listed.

c) Policy-makers and decision-makers at national and European level who may find these reports useful for the purposes of comparative analysis. Now that volumes 3 and 4 are published, however, these readers might prefer to await a comparative study from CEDEFOP on the 17 countries examined to date.

4 How to use this publication

From the foregoing it should be clear that volumes 3 and 4 can be used in several ways:

a) The reader can study the situation or data of teachers and trainers in VET in a specific country of interest.

b) The reader who is interested in comparing a certain aspect of the situation of teachers and trainers in VET in several countries can consult the corresponding section in each of the country reports concerned. In this case, however, it should be borne in mind that a knowledge of the national background context is essential for correctly interpreting the facts on any given aspect.

5 Definitions and readability

In order to maximise "trans-European readability", the co-ordinator has ensured consistency as follows in the terminology used in volumes 3 and 4:

- VET:

These country studies examine teachers and trainers in vocational education and training, not just trainers in vocational training. The reason for this broad subject coverage is that in many countries general education and vocational training are provided together in an initial system of vocational preparation. Nonetheless, the analysis of the teaching/training personnel here refers only to those who are engaged in vocational (as opposed to general or academic) learning - persons who can be found in both vocational schools and the business world.

- Pupils, trainees, students:

A distinction is made in these studies between three categories of learners, each being indicated by a specific term:

pupils:	learners in general education or in vocational education with a general education component;
trainees:	learners studying exclusively the theory and practice of vocational subjects;
students:	learners in higher education and at institutes providing training for intending teachers and trainers.

- Training functions:

CEDEFOP distinguishes between six different functions in teaching and training in VET:

- tutoring (tutor, coach, mentor, guide, master)
- teaching (teacher, trainer, instructor)
- counselling (counsellor, consultant)
- development (developer, designer)
- management (training manager, principal, director)
- policy-making.

This volume is concerned exclusively with the first two of the functions listed above; the focus of attention is always the direct relationship between the learner and the trainer.

6 Follow-up

To follow up the publication of these four volumes on teachers and trainers in VET, CEDEFOP's 'Training of Trainers' task unit has suggested the following possibilities:

a) A synthesis of the 17 country reports contained in the four volumes published to date. Such a synthesis would provide a comparative view of teachers and trainers in VET in these 17 countries while future updates of the Cartography Studies are expected to provide more detailed information.
b) An analysis of the counselling function, the development function and the training managing function, together with the associated training programmes.
c) An update of Cartography Studies volumes 1 (Germany, Spain, France and the United Kingdom) and 2 (Italy, Ireland and Portugal) so that up-to-date information is available on the EU Member States.

Any revised editions will not only examine the current situation of teachers and trainers in VET but also track current trends and developments in VET and identify the implications thereof for the situation and training of the teaching and training personnel.

7 Comments are welcome

High priority was attached to speed in producing volumes 3 and 4 of the Cartography Studies, and it proved possible to remain on schedule despite the slight delay incurred by CEDEFOP's relocation from Berlin to Thessaloniki. As a result of this policy, however, up-to-dateness of information may have prevailed over completeness. This and any other shortcoming can be remedied in future revised editions with the support of readers, who are invited to communicate their comments to the 'Training of Trainers' task unit at CEDEFOP. Such comments would be highly appreciated.

Denmark

1 Introduction

1.1 Denmark

Denmark is situated between other Scandinavian countries to the north and Germany to the south. It extends over 43,000 km^2 and has a population of 5.2 million. The language is Danish, though many people also speak English as English is taught in schools as the first foreign language from the fourth grade on.

Until the middle of the 20th century Danish society was primarily an agricultural society, and although the country's most important natural resource even today is still farmland, over the past 40 years industry and tourism have become the main sectors of employment. The Danish industrial sector is dominated by a large number of small and medium enterprises which make rigorous demands on the skill level of the workforce.
The unemployment rate has been declining for some years and is now approximately 9% with a slight downward tendency. The rate of female employment is high, and in recent years there has been a considerable increase in the number of women employed in skilled occupations.

Denmark acknowledges a state church, the Lutheran Church, but has a number of other religious communities serving the spiritual needs of various minority groups.

1.2 The Danish economy

The Danish economy is small, open, very dependent on trade with other countries and devoid of any possibility of influencing international trading conditions or central economic factors, e.g. interest rates. Exports and imports both constitute approximately 1/3 of GNP in terms of value. About 2/3 of foreign trade is transacted with other EU countries. Germany is by far the most important bilateral trading partner, but Sweden, Great Britain and Norway are also significant in this respect. Outside Europe, Denmark's main trading partners are the USA and Japan.

Because of the overwhelming importance of foreign trade for the domestic economy, Denmark is very keen to trade goods and services freely with other countries. Consequently, Denmark has joined cooperation organizations such as the EU, OECD and WTO (formerly GATT), and has played an active role within these to secure the removal of barriers to free trade.

Since World War II, the structure of Danish exports has changed tremendously. Industrial exports now prevail over agricultural exports and are accounting for an ever-increasing part of total export business. By the mid-1990s, industrial exports accounted for about 75% of the total value of Danish exports, a figure which dwarfs the 15% generated by agricultural exports. Just over 1/3 of industrial exports consist of machines and instruments, 15% are chemical products, and 10% are industrially processed agricultural products, including canned meat. After attaining considerable growth rates in the 1970s and 1980s, the export of services has remained stagnant during the first half of the 1990s.

Industry's imports of commodities and semi-manufactures, including energy, and of machinery and other capital assets account for just under 70% of total imports.

Danish oil production increased considerably in the 1980s, bringing about a steep fall in energy imports. The remaining approximately 30% of imports are mainly consumer products, including motor vehicles. Denmark also imports a considerable amount of foreign services.

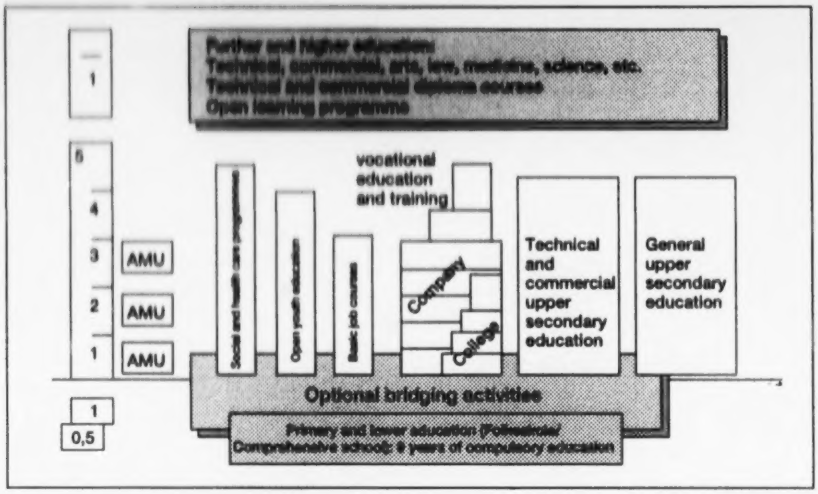
1.3 The Danish education system

Almost all education in Denmark is publicly funded, delivered free of charge and open to everyone.

Compulsory education extends over nine years and covers the age group 7-16. Approximately 90% of each age cohort attend municipal "Folkeskole" and 10% private schools, though even the latter are publicly subsidized. About 95% of school-leavers proceed to some form of further education or training.

There are three main categories of post-compulsory education and training:

- vocational education and training programmes, attended by approximately 40% of each school-leaver cohort;
- vocational upper secondary education, attended by approximately 15% of each school-leaver cohort;
- general upper secondary education, attended by approximately 40% of each school-leaver cohort.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AMU
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Further and higher education:
Technical, commercial, arts, law, medicine, science, etc.
Technical and commercial diploma courses
Open learning programme
Social and health care programmes
Open youth education
Basic job courses
vocational education and training
Company
College
Technical and commercial upper secondary education
General upper secondary education
Optional bridging activities
Primary and lower education (Folkeskole/
Comprehensive school): 9 years of compulsory education

The Danish education system.

95% of all youngsters completing compulsory education opt for some form of post-compulsory education or training.

1.4 Vocational education and training

Denmark has some 130 vocational colleges which can be classified in four groups according to sector:

- technical colleges (craft, industrial and technical service occupations);
- business colleges (commerce and administration);
- agricultural colleges (agriculture);
- social and health care colleges (public social and health care).

Social and health care colleges are run by the county authorities. All other colleges are independent institutions operating under the auspices of the Ministry of Education.

Also providing vocational education and training programmes are 24 AMU centres (labour market training centres), which offer short-term supplementary courses, mainly for adults, qualifying for employment in the crafts, industry, agriculture and service sectors. The AMU centres are run by the Ministry of Labour.

2 Initial vocational training

This study focuses on initial vocational training, not only because this alternance scheme absorbs the largest number of school-leavers but also because it created the historical foundations for the development of vocational colleges - and hence for the emergence of the profession of vocational teacher and the associated traditions and culture(s).

This chapter examines the structure of apprenticeship and outlines its historical development, thus providing background information concerning some of the features which are specific to the activities of vocational teachers:

- coordination of college-based learning and in-company training;
- the gradual expansion -in both quantitative and qualitative terms- of college-based training;
- the importance of industrial self-government which is expressed via joint Trade Committees which not only establish regulations to govern the in-company component of initial training but also exert a decisive influence on the core curricula for the college-based component;
- coordination of general education, occupation-related education and college-based workshop training;
- insight concerning the development of skill demands on the labour market and response to such insight in terms of modified training delivery schemes and content (implying changes in the teacher's role and attitude to give more scope for pupil initiative and self-managed learning).

2.1 The 1989 legislation on the IVET system

The mid-1980s saw the initiation of efforts to reorganize basic vocational courses with a view to enhancing the potential of the IVET system to respond to the challenges of technological and social change.

Two new laws were passed. One concerned vocational colleges and led to their decentralization and to financial support from the state in accordance with a "taximeter" principle (Law No. 210 of 5th April 1989). The other reformed the structure of the vocational training system and the associated consultative and steering bodies (Law No. 211 of 5th April 1989).

These laws took effect on 1 January 1991 - hence the frequently used synonym "the 1991 reform".

2.2 The central importance of the alternance principle

It is important to emphasize that the IVET system in Denmark is firmly rooted in an apprenticeship tradition and that any deviation from an alternance-type system would be regarded as a grave mistake.

The 1989 legislation unified two competing apprenticeship-based training models:

- the master apprenticeship model regulated by legislation adopted in 1956;
- the basic vocational education model, "erhvervsfaglig grunduddannelse" (EFG), which was introduced on an experimental basis in 1972 and then backed up by legislation enacted in 1977.

The 1989 legislation adopted a formula which preserved the central principle of both models coexisting in the craft and manufacturing industry sectors. The new structure and its main components are described below.

The social partners

All vocational education and training programmes are developed in close cooperation with the organizations representing the two sides of industry. This approach ensures that the programmes meet the demands of the market at any given time: needs for new skills are registered promptly and the appropriate training can be incorporated in the programmes without delay. This built-in dynamism within the system guarantees that pupils receive a sound, useful and up-to-date training. Representatives of the social partners also have a decisive influence on the running of individual vocational colleges.

Other notable characteristics of the system are its coherent nature and its openness. Pupils are free in their choice of college, and most courses are run on the basis of an open admissions policy. No tuition charges are payable. Normally, training programmes start at a vocational college, but some may begin within an enterprise. The students' free choice of college and course is safeguarded by the fact that as soon as they enter into a contract with a company, they are entitled to a salary which makes them financially independent. In addition, technical colleges offer accommodation in special boarding facilities to pupils domiciled outside the normal catchment area. Approximately 8,000 pupils take up this special offer each year.

The programmes are broad-based and specialize gradually with constant options. Approximately 90 different programmes are on offer, including more than 200 specializations. Prior to 1991 there were approximately 300 different basic vocational education and training programmes. The openness of the system is also reflected in on-going access to continuing (adult) education and training and other supplementary courses.

The vocational education and training system plays an important role in implementing Denmark's general policy of "Education for Everyone" - which is a goal for industry as well as for social policy. Pupils who are physically handicapped or have learning difficulties are offered special aids, teaching materials and courses so that they too can get an education. Approximately 3,000 pupils make use of these facilities each year.

Structure of the vocational education system

Over two thirds of vocational training schemes allow for training to commence with a work period, carried out all in **one** school for which no admission requirements apply and which is not compulsory. For persons opting for this arrangement, the training time is extended by six months. Once this one-school period has been completed, trainees progress to the 20-week second training

period. Trainees receive pay throughout their training after having signed an apprenticeship contract.
Persons over 18 years of age can start with the second training period. Those with a relevant background of training and employment (usually adults) can skip both the first and the second training periods and take the so-called "merit route".

The training is structured on the alternance principle, i.e. relatively brief periods of theory instruction alternating with practical work experience (on-the-job training) in a company. The training duration is generally not longer than four years, including a maximum of 80 weeks of theory instruction. The Trade Committees determine the detailed structure of the training and also the mode of alternance between college and company, aiming always for close and interactive links between the two learning venues.

The theory component of all of the new-style vocational training schemes has a four-part curriculum: basic subjects, occupational field subjects, special subjects and optional subjects.

The craft and manufacturing industry model

In the craft and manufacturing industry sectors, the first year of a basic vocational education is spent in one of two ways:

1 Either the youngster signs a contract with a company for training in a certain occupation, spends six months in the company and then attends instruction at a technical college for six months in what is called the second period of college attendance.

2 Or the youngster initially enrols on a six-month technical college course (for the so-called first period of college attendance), which provides fundamental orientation and an introduction to one or several areas of training intended to test abilities and interests as the basis for choosing a course for the second period of college attendance. During the second period of college attendance the pupil attends classes with others who started their training in a company. At the end of the second college period the young person has to find a company which is willing to offer him/her a contract for the training needed in order to qualify for a vocational qualification.

By the end of the first year of training in either of the two schemes, all pupils will have signed a training contract with a company. The remainder of the training is delivered in alternance format, the greater part of it taking place in the firm as a combination of work and training interrupted by periods of 5-10 weeks at a technical college. The total duration of college attendance amounts to 35-40 weeks. The total duration of the training, and also that of college attendance, varies considerably from one occupation to another but must not exceed four years.

A legislative amendment adopted in 1995 made the second path -college attendance first- fully optional. It is therefore now possible for the duration of this so-called first college period to vary between 10 and 40 weeks.

The commercial and clerical sector model

In the commercial and clerical sector the training commences with a full year of attendance at a commercial college, after which the youngster has to obtain a training contract with a company - as in the craft and manufacturing industry sector. However, both the total duration of training and the duration of college attendance during the alternance period are shorter in the commercial and clerical sector than in the craft and industry sector.

This model was also reformed by the 1995 amendment, which strengthened the college part of alternance and promoted more intensive contacts between colleges and enterprises.

2.3 Training contracts and aim of the training

A training contract is essential for accessing and completing a vocational training course. The principles governing such contracts are determined by the Trade Committees, bodies bringing together -in equal numbers- representatives of the relevant employer organizations and trade unions. The Trade Committee authorizes firms to sign training contracts and lays down regulations to govern the in-company part of the course. These principles and regulations must be formally approved by the Minister of Education.

The 56 Trade Committees also have considerable influence over the college-based component of the training, but when considering the complete training programme they are obliged to check the objectives of the training for compliance with the overall youth education plan.

The main objectives for the design of vocational training programmes as stipulated in law include:

- providing motivation for vocational choice and keeping open options during training;
- providing opportunities for understanding real-life working conditions and promoting personal development and an understanding of society;
- responding to the needs of the labour market in terms of course content;
- laying the foundation for further education.

These objectives serve as guidelines for the Trade Committees in structuring training plans. The plans must be approved by the supreme planning and advisory board for vocational education and training, the Vocational Education Council, Erhvervsuddannelsesrådet (EUR).

Besides offering equal representation to the central labour market organizations, the Danish Employers' Confederation, Dansk Arbejdsgiverforening (DA) and the Danish Federation of Trade

Unions, Landsorganisationen i Danmark (LO), EUR brings together representatives of directors' and teachers' organizations in the technical and commercial college sector under the chairmanship of a person appointed by the Minister of Education in consultation with advisers from the ministries of labour, industry and education. EUR must be consulted before training courses for new occupations are instituted and before courses for existing occupations are reformed or terminated, and it is also called upon to submit recommendations to the Ministry of Education.

Programmes

The law regulates how vocational courses are established, imposing rules on the structuring of the college-based component in order to guarantee compliance with the overall objectives of youth education. The regulations require that 1/3 of college time is spent on general subjects, 1/3 on subjects within the chosen vocational field, and the remainder in equal parts on occupation-specific subjects and optional subjects.

The general subjects must be chosen by the Trade Committee from a single catalogue compiled to cover all fields of vocational education and training. The combination of general subjects can thus differ from one vocational specialization to another.

The Trade Committees are entitled to decide on the vocational field subjects which are to constitute the core curriculum for a cluster of trades and prepare for subsequent study of the occupation-specific subjects which constitute the advanced training for the chosen occupation.

Finally, the optional subjects are meant to give apprentices a possibility to explore their personal interests and the opportunity to aim for further educational qualifications.

Through these rules the intention of the law is thus to oblige the Trade Committees to observe a number of general objectives in vocational training.

Such intentions were also incorporated in the EFG training, which was introduced by provisional legislation in 1972 and established more permanently by the EFG Law of 1977. At that time it was stipulated that a basic vocational education and training should begin with a full year of basic training in one of eight vocational fields and general subjects, the latter to account for 40% of learning time.

Vocational fields

A certain branching within each of the eight main fields did take place in the basic year but, compared with the master apprenticeship system, the EFG system offered a more gradual selection process for specialization and also a greater general study component.

The eight main vocational fields are:

- construction industries;
- graphic industries;
- commerce, commercial trades and public administration;
- metalworking industries;
- agriculture;
- road transport;
- food industries;
- service trades.

The EFG system and the master apprenticeship system competed in the sense that their youngsters were seeking training contracts on the same market. The contract which had to be signed by young people after the EFG basic year and before they could proceed further was similar to the master apprenticeship contract except being one year shorter. The two training programmes were of approximately the same duration. Most occupations using the master apprenticeship system also introduced technical preparation courses which were more or less like the partly specialized 2nd term of the EFG basic training. The main difference between the systems was therefore the broad initiation to the eight main fields offered by the EFG system.

The eight committees governing the main vocational fields, the EUUs, have now been abolished. Instead, the Trade Committees now make their recommendations direct to the superior advisory board, EUR, an institution which also existed under the EFG legislation.

2.4 The strengthened status of the Trade Committees

The 1991 reform of the vocational training system imposed an obligation on the Trade Committees to observe a proper division and balance between general subjects, vocational field subjects, occupation-specific subjects and optional subjects. This obligation is supposed to ensure breadth, clustering among related occupations and gradual specialization.

Negotiations between the Trade Committees, the EUR and the Ministry of Education have been decisive in determining the extent to which these objectives have been met. It is self-evident that the reform implied a strengthening of the role of the Trade Committees.

The 1989 Training Act stresses the central role of the Trade Committees in monitoring changes in skill requirements and in responding to these by making appropriate changes to the curricula. The question remains, however, as to what extent this reflects a new situation (see below).

2.5 Importance of trade self-management for the development of the apprenticeship system

The traditionally central role of the Trade Committees has profound historic roots in Denmark. These bodies represent a specific mechanism for solving quantitative and qualitative problems in the regulation of alternance training. A more detailed review of historical developments in the Danish tradition of regulating apprenticeship training can be found in the Danish contribution to the CEDEFOP study entitled "The role of the social partners in youth and adult vocational education and training", CEDEFOP, Berlin 1988.

The origins of the college-based component of alternance training programmes are not unusual. By Danish tradition, the public sector has always provided financial support for the technical and commercial colleges established by employer organizations in craft, industry and commerce to supplement in-company training - primarily through the teaching of Danish, arithmetic and technical drawing.

Regulation of in-company training

The difficulty here was finding ways of guaranteeing the quality of in-company training, a concern which is related to the twofold status of the apprentice - an individual undergoing training and simultaneously a paid worker.

Depending on the nature of a company's operations and the pattern of its division of labour, commercial considerations may call for the apprentice to be trained for the full range of activities typical of a skilled worker or for only more restricted or specialized activities. Indeed, a company may even perceive an interest in training apprentices but not in subsequently employing them as skilled workers if it does not need an adult labour force capable of handling all aspects of a skilled occupation. Other companies, by contrast, may need a workforce with broad-based qualifications but be unable to organize economically and pedagogically efficient training for a sufficient number of persons.

An indication of the importance of this aspect is the fact that 57% of all apprentices have contracts with firms with fewer than 20 employees and together accounting for only 18% of total employment.

The former category of company, whose interest is primarily in training, can be regarded as firms of supply, and the latter, whose interest is primarily in the technical competence of the skilled worker, as firms of demand. For the latter, insufficient in-company training by other employers in the same trade creates a problem. These firms therefore represent a possible partner for a skilled worker union interested in securing an intake of young persons with broad qualifications.

Such alliance patterns developed in the Danish metalworking industry at the end of the 1920s and led to the establishment of the Apprentice Board for the Metal Industry, Metalindustriens Lærlingeudvalg (ML), which drew up regulations for in-company training in the various metalworking occupations and became the authority officially responsible for accrediting employers as entitled to take on apprentices.

Over the years the labour movement had made a number of efforts at political level to have a public (municipal) authority to supervise and approve in-company training but had met with strong opposition, particularly from employers' organizations. Inspired by the arrangement within the metalworking field, however, they changed their strategy during the 1930s, giving up the idea of public - state or municipal - supervision of in-company training in favour of supervision based on a mechanism similar to that for the regulation of collective agreements - i.e. Trade Committees allowing for equal representation of the social partners.

Apprenticeship

Legislation on apprenticeship enacted in 1937 introduced the possibility of appointing Trade Committees with equal representation which were empowered to lay down principles for in-company training with a 2/3 majority vote and control the admissibility of companies as training providers. The principle of a 2/3 majority made it necessary for the parties to seek a common interest in safeguarding quality standards in vocational training.

These standards had to be approved by a superior board which, although providing for equal tripartite representation, left the politicians - i.e. the Minister - with no influence. With its 1937 law the legislature had thus abstained from directly regulating the in-company part of vocational training in favour of indirect regulation via collective action by the social partners - a practice referred to as trade self-management.

When first established this practice was highly controversial, but trade self-management has gradually won general recognition. Today it is seen as a natural part of the Danish vocational training tradition.

Regulation of college attendance

Quality, however, cannot be ensured merely by regulating in-company training. In quantitative terms too, the social partners recognized that the number of apprentices would fall drastically if the educational competences required for the in-company training exceeded abilities and that they therefore had to exert pressure on the state.

In 1956 a law on apprenticeship was enacted which stipulated that vocational colleges would be set up as day schools over a period of eight years and that occupation-specific instruction would be included in the curriculum. College programmes were structured so that classes were formed annually for apprentices of each occupation.

During the 1960s and 1970s the technical component of college instruction was enlarged, including practical workshop training, and after the establishment of EFG most of the master apprenticeship curricula introduced technical preparation courses so that apprentices underwent a basic college-based training soon after signing their training contract.

The special feature of the Danish story has been that the Trade Committees with their equal bilateral representation initiated these developments and laid down the guidelines for the technical training at the vocational colleges. Although they clearly had to cooperate here with advisers and civil servants from the Department of Vocational Education of the Ministry of Education, the Trade Committees and secretariats set up and financed jointly by the social partners played a central role in articulating demands concerning the content of and time spent on college-based instruction as part of a vocational education and training.

2.6 Role of IVET in secondary education

The rate of participation in secondary education after completing the 9th grade of compulsory schooling (16-17 years of age) is close to 95%. Although the following figures seem to suggest a higher rate while not even covering all the courses, the reader is reminded that some young people enrol on more than one course.

Enrolment in youth education/training 1994.

Commercial colleges	18,462	27.1%
Technical colleges:		
- college entrance	13,270	19.4%
- industry entrance	6,761	9.9%
General upper secondary	29,571	43.4%
Total	68,064	99.8%

The problem in Denmark is therefore not the initial enrolment rate but the fact that only 76% of persons enrolled actually complete their qualification.

Orientation This drop-out rate has led to efforts to improve links between elementary education and IVET and to support young people with better guidance and orientation facilities before they make their educational choice.

Measures have also been taken within the IVET system to reduce the drop-out rate: redesign of curricula, development of college culture, etc. It is thought that a possible explanation for the high drop-out rate is the increase in general/common subjects following the 1991 reform.

Contracting companies

Another important problem is structural. A youngster is only able to obtain an IVET qualification if he/she can find a company willing to offer an apprenticeship contract. Since the mid-1970s a constant and major problem has been that many youngsters who successfully completed the first school-based year of IVET have been unable to secure an in-company training place.

In 1991 this anomaly led to legislation opening up the possibility of establishing so-called practical training places at vocational colleges to cater for able young people who are unable to find an in-company training place. With little modification, the law became permanent in 1995, thus ensuring that young people have the opportunity of completing IVET.

Theoretically, the practical training place at a college option could be seen as being contrary to the sacred principle of alternance - and it certainly gave rise to bitter controversy. Experience has shown, however, that many vocational teachers have succeeded in organizing creative and high-quality practical courses. In so doing they had to modify their function from that of a teacher to that of a trainer. This gave rise to many fruitful discussions on the differences between the tasks of teachers and trainers, and a number of in-service seminars were organized on this topic by the Danish Institute for the Training of Vocational Teachers, Danmarks Erhvervspædagogiske Læreruddannelse (former SEL, now DEL). However, no standard course for college trainers has yet been formally established.

The quality of the compensatory practical training place scheme -Praktikpladskompenserende Undervisning (PKU)- was evaluated in a report published by SEL in 1992 and is described and compared with regular apprencticeship training in a report produced under PETRA-VI.
This development has meant that not only teachers directly involved in PKU but also most other vocational teachers have been involved in discussions and reviews on what teaching, instructing and training respectively involve. A further spin-off has been (re)consideration of the pedagogic implications of an alternance-based training.

2.7 Technical competences in apprenticeship

Distinct objectives are laid down in Denmark for the subject matter to be covered during practical/enterprise periods, and there are also precise descriptions of the aims of each college period.

By signing a contract with an apprentice, the enterprise undertakes to prepare the young person concerned for a full vocational qualification. Unless the enterprise or the apprentice terminates the apprenticeship contract during a mutual trial period of 3-6 months, the enterprise can be held legally responsible in the event that the apprentice fails the final examination. This implies that the enterprise would have to pay compensation or complete the apprentice's education within 6-12 months, during which period the apprentice would be entitled to a full skilled worker wage.

Satisfaction In general, apprentices seem very satisfied with their in-company training periods, a fact which -from a comparative perspective- could be explained by two factors:

a they stay in the enterprise for longish periods, each lasting 6-9 months, where they are considered as members of the workforce and contribute to the company output (material or immaterial) while undergoing training; they are moreover rather well paid;

b the work organization structure typical of Danish enterprises is influenced by a tradition of workforces having broad-based skills and maintaining professional pride, responsibility and quality standards; this means that the duties assigned to apprentices can be demanding and offer good learning opportunities.

The second argument implies that although no formal requirements exist for appointment as a trainer/monitor, apprentices (even in small enterprises) work under the guidance of a skilled person and thus have a role model demonstrating how good quality work ought to be performed.

Enterprises also have to apply to the (bipartite, equal representation) Trade Committee for the right to train apprentices. Approval is initially sought locally, but in the event of dispute the final decision is taken by the national Trade Committee (there are 56 of these). The right to train apprentices is granted to a specified maximum number of companies for each trade, and the decision depends on the nature of the company workforce (some must have the relevant skilled worker qualification enabling them to provide training), the technical facilities available and the nature of the production/services delivered by the enterprise.

Grievances Should the apprentices from an enterprise fail the final examination, that enterprise's license to provide training places will be reconsidered. If the apprentices are dissatisfied with the tasks they are assigned because they believe them to be irrelevant to what they should be learning, they can turn to their trade union representatives who, provided the grievances are well documented, will raise the matter with the local Trade Committee.

The local Trade Committees foster close links with the vocational colleges, consulting with the teachers and expressing criticism if they consider the equipment or teaching performance to be below standard. They also play an important role in finding practical training places for young people.

Quality assurance

This networking means that trade union representatives and employers' representatives are aware of what is being learnt at the local colleges and what, therefore, would be:

a appropriate work assignments for the practice periods following college periods 3, 4, 5 etc.;

b how far developed the apprentices' technical qualifications are, what can therefore be reasonably expected of them, which tasks can be carried out autonomously, and which tasks still have to be carried out under instruction and supervision.

In this respect the shared tripartite responsibility involving vocational colleges (the public sector), employers and trade unions has a solid base in Denmark.

But even though tradition and the involvement of the social partners ensure that the in-company periods involve training and not only exploitation, it is still possible to find isolated cases of below-standard training performance. For example, an enterprise which is approved as a provider of practice places may undergo changes which render it unsuitable - the equipment may have become outdated, the production more one-sided, specialized, etc.

Seen from a technical point of view, the value of enterprise training thus differs depending on the structure of work organization within the company concerned. Generally speaking, apprentices are assigned routine tasks for which they have been prepared during previous periods spent in college.

But maybe the most important qualitative element of training in a company is to be accepted as a member of the work collective. In-company training is an important factor in the development of the youngsters' social skills and so-called "soft" competences.

Some Danish case studies have pointed out that apprentices feel they are more respected, treated more like adults, less controlled and conceded more responsibility and freedom in planning their own work during their practical training periods spent within a company. By comparison, they find college more rigid with too little time being allowed for a task because the teaching plan urges them to move on, etc.

The technical learning contribution of enterprises involved in IVET has been found to be satisfactory, even without the existence of any formal requirements concerning the training of trainers. Companies are free to allow apprentices to assume a role which matches their work organization structure - a fact which is seen as promoting the development of social skills.

3 Teachers and trainers

Teachers of general and vocational subjects cooperate closely in the Danish IVET system.

3.1 Historical background

To understand the position of teachers and trainers today one has to consider the historical development of their profession.

The period of numerous small colleges providing evening classes

In the previous chapter it was pointed out that the alternance principle is fundamental to Danish IVET. Technical and commercial colleges already existed and had secured some public financial support when the first apprenticeship law was passed in 1889. These colleges were set up by local employers' organizations and focused on (technical) drawing, reading, writing and arithmetic/geometry/calculation (technical colleges), and bookkeeping etc. (commercial colleges), i.e. subjects which were necessary to proceed beyond the pure assimilation of the skills of conventional trades.

The teaching took place in the evening hours after the apprentice had finished the normal working day. Participation in evening classes was made compulsory in 1921.

In 1916 a national inspectorate for instruction at vocational colleges was set up. It established a 12-week "Pedagogicum" which was geared heavily towards the teaching of drawing and thus catered for the many handicraft masters and journeymen who were working as part-time trainers in evening classes. The other evening class staff were primary school teachers. Teachers at the commercial colleges were people with university degrees and from the commercial and financial world.

Up to approximately 1950, teaching at a vocational college was only a part-time job - Denmark's approximately 360 technical colleges had a total of only about 50 full-time teachers, and these taught the common core subjects of that period rather than occupation-specific subjects. The great majority of teachers, however, were well respected, skilled professionals who taught evening classes on a part-time basis.

Introduction of day schooling

After protracted political discussions which had started prior to World War I, a new apprenticeship law was enacted in 1956. Day schooling was to be implemented within eight years and workshop-based training and instruction in occupation-specific theory introduced. This implied that common instruction for apprentices in different trades at different stages of their training was no longer possible - i.e. the demise of the numerous small colleges system.

Within a period of eight years the number of technical colleges was reduced from 360 to 60. With practically all teaching taking place during the day, part-time teachers now became the exception rather than the rule. In an analogous move, the number of commercial colleges was reduced from 250 to 55.

Growing importance of colleges in IVET

From around 1960 it would be correct to speak of an alternance system and of the vocational colleges as youth vocational education institutions. The educational boom of that time was also accompanied by a rise in the number of apprentices. Furthermore, from 1958 onwards technical assistants were required to have undergone a technical college education. During the 1960s, therefore, several courses leading to the technician qualification were designed and introduced as part of the teaching programme at technical colleges. The commercial colleges experienced a similar rate of growth.

The percentage of public financial support for colleges rose during these years: in 1956 it increased to 78% and in 1964 to 84.5% (of which the share of the state was 65% - since 1977 it has been 100%; i.e. the state now pays all teaching expenses). In 1977 a fund based on an employer levy was established to refund the wages of apprentices during their college periods.

One remarkable fact here is that although the financing of the college part of IVET became a public responsibility, the labour market organizations continued to have a substantial influence over it (see chapter 2).

Finally, in 1965 a bill was introduced giving 85% state support to continuing vocational training for commercially and technically skilled adults provided that the initiative was taken by the Trade Committees (which were required to finance the remaining 15% until 1985 when the state took full financing responsibility). The vocational colleges were required to also provide CVE&T for adults. This meant a big increase in the teaching staff requirement at vocational colleges. The need was mainly for persons with technical skills and an apprenticeship background but also for technicians and engineers.

As a follow-up to the 1956 apprenticeship legislation, consideration was given in 1958 to launching a major reform of the education and training of vocational teachers.

Because of the drastic need to expand teaching staff numbers, the 14-week Pedagogicum was considered unsuitable. A more comprehensive model inspired by the German "Berufspädagogik" experience was also considered but was dropped - again because of the urgency of resourcing staff (implementation of day-school instruction from 1956 to 1964).
In 1959 the Danish Technical Teacher Training Institute, Statens Tekniske Læreruddannelse (STL) was established, and it is remarkable that the Pedagogicum offered by STL was inspired by the TWI (training within industry) scheme from the USA. According to this concept the teacher's main job was to be a good instructor in occupation-specific subjects.

From 1970 on: a shift towards more general youth education

The end of the 1960s was a critical period for the IVET system. Youngsters in large numbers expressed a preference for an academic secondary education, accusing the apprenticeship system of being too narrow, too specialized and more exploitative than the education system.

This led to the EFG model (described in chapter 2) and also had an impact on the new Pedagogicum which was introduced immediately after the establishment of DEL as the successor to STL in 1969. The new Pedagogicum included training in pedagogy, and without being any longer than its predecessor the new model gave more attention to fields of broader pedagogic interest, e.g. youth psychology.

In the mid-1970s and as a consequence of the EFG development programme, attention was focused on how to arrange for a constructive link between teaching in workshop practice periods and instruction in occupation-related theory on the one hand and general subjects (Danish, arithmetic, foreign languages, economic and social subjects etc.) on the other.

This reflected a classification of the teaching staff into vocational teachers and general subject teachers. To a certain extent the latter represented a new group in the technical college environment, and they were mainly persons who had trained as primary school teachers or who held a university degree qualifying them for teaching in general secondary education.
The qualifications and status of these different groups are discussed in subsequent chapters.

Technical teachers

The total teaching faculty at technical colleges numbered 3,093 in 1976 (of whom 656 were employed on a part-time basis):
- about 50% had a craft background;
- about 25% held technician or engineering qualifications;
- about 25% held a general education or teaching qualification.

This is one of the few accurate sets of comparative statistics in existence on the educational background of vocational college teachers - and it was compiled precisely because the balance between teachers of vocational and general subjects was a major focus of attention during the political debate on EFG vs. the master apprenticeship system.

Nowadays it is roughly estimated that the ratio between the two groups is about 2:1 respectively. In 1994, teacher numbers were as follows:

• in the 52 technical colleges approximately	7,000
• in the 55 commercial colleges approximately	4,000
• in the 24 AMU* centres approximately	1,500

* AMU= Labour Market Training Centres, with teachers who undergo the same Pedagogicum as technical college teachers.

This breakdown can be considered typical of the Danish IVET culture. There is no difference between the salary payable to teachers with an IVET background and teachers with a university degree.

It is conceded that differences exist between the different types/levels of teaching, i.e. between teaching apprentices, technicians, etc., but no distinction is made among teachers of apprentices between those who teach general subjects, those who teach occupation-related theory and those who provide workshop-based training.

Differences did -and still do- exist with regard to prestige. It was the two last categories of teacher who ranked highest; i.e. teachers with "real-life" occupational experience had more prestige than those with "only" an academic background.

The above refers to staff at technical colleges. For the situation in commercial colleges, see below.

This differentiation between vocational subject teachers and general subject teachers became important during the 1970s. As a result of the expansion of the EFG version of IVET (see chapter 2), the percentage of general subject teachers increased to around 20%, most of them having some kind of university degree which also qualified them for teaching in general secondary education.

Because of the rapid expansion of university education in the 1960s, the labour market registered a growing number of unemployed graduates, especially persons with degrees in social science, history, Danish and foreign languages.

But at both college level and national education policy level there was concern to prevent a situation where the teaching of general subjects in IVET would deteriorate into a "discount" version of that in general secondary education.

As early as 1973 the council in charge of EFG development laid down guidelines for cooperation between the two categories of teacher and for developing the core subjects in versions specific to the various occupations being taught. And it became a requirement that academics should have at least two years of relevant work experience in their occupational field before being employed as a teacher in IVET.

The intention here was to prevent a situation where a teaching post in IVET could become an easy "second choice" for academics who could not secure a preferred appointment in general secondary education - and also to underline that they had to cooperate with vocational subject teachers on equal terms.

The outcome was not disappointing: in everyday life in technical colleges the vocational teachers seemed to have the highest prestige (including among the apprentices), and the cooperation experiments with project- and problem-centred teaching etc. intended to integrate vocational and general instruction were in fact initiated mainly by the academics, though they could only be implemented with the full consent of the vocational teachers.

Even though technical college appointments had indeed been a second choice for some of the academics, the new generation of teachers had more radical views and saw academic secondary education as rather old-fashioned and bourgeois. They consciously wanted to educate young workers and saw their mission as teaching general/core subjects using methodologies and contents which were genuinely relevant to the apprentices' work experience (i.e. promoting political and social class consciousness)

These political attitudes naturally implied possible conflicts with some of the older teachers, especially those who believed that general subjects should play only a secondary role to vocational subjects and who, for the same reason, considered that the EFG model (with 40% of the basic year devoted to general subjects) was a mistake.

These different attitudes to the EFG versus the master apprenticeship system also affected the status of the two corresponding groups of teachers at technical colleges. Nevertheless they were (and are) members of the same teacher trade union.

Commercial teachers

This is not the case at the commercial colleges - here the academics are members of their own unions together with academic secondary teachers or, for example, members of the Union of "Economists". Moreover, in the commercial college sector there are no differences in salary on the grounds of the teacher's educational background for teachers teaching pupils at the same level. There are, however, clear prestige differences between those teaching apprentices and those teaching persons aiming for more advanced commercial studies.

Furthermore, the concept of "occupation" seems to be far more vague at commercial colleges, mainly because the majority of teachers there have no labour market experience in the occupation in question. The teachers' ambitions are subject-centred, i.e. teachers of bookkeeping have their own groups within the commercial college teachers' union, where they discuss the development of their subject and their pupils' examination performance. Similarly, teachers of French have their own groups, but they also compare their own conditions and performance with those of their counterparts in academic secondary education.

Compared to these counterparts, teachers in the commercial college sector have lower salaries and less status; the public financial support input per pupil is also lower. Commercial college classes tend to be rather large, with around 30-35 pupils per class.

In terms of training in pedagogy, most commercial college teachers have qualified (through the post graduate education Pedagogicum) prior to their appointment. The rest undergo a training of much shorter duration than the compulsory Pedagogicum for technical college teachers.

There is no evidence in the commercial college sector of conflicts within the teaching staff similar to those between vocational and general subject teachers at technical colleges. The distinction between teachers here has taken on another form: languages and economics are considered to be occupation-related, and the conflict between the master apprenticeship model and the EFG model ended here with the prevalence of the EFG model at the end of the 1970s.

A softening of this conflict also occurred in technical IVET in the early 1980s as more and more Trade Committees modified their master apprenticeship IVET to give increasing prominence to the college component and general education subjects.

It had become clear that academic teachers had a necessary role to play in technical college education and that they had come to stay. At the same time many of the older vocational teachers with a limited educational background found it necessary to update their skills, especially since the apprentice intake after 1975 had already undergone at least nine years of schooling. These developments also resulted in better conditions for coexistence on equal terms between the two technical teacher cultures.

Promoting this type of cooperation is one of the prime ambitions of the 1989 reform of IVET. Given this fact it seems rather paradoxical that the reform abandoned the earlier requirement that directors of vocational colleges themselves hold the Pedagogicum qualification and have some teaching experience - following the philosophy of the importance of pedagogic leadership. The signals are that economic management is now considered as the top priority qualification for vocational college directors.

3.2 Position and opinions of vocational teacher trade unions

As stated above, the technical college teachers' union (the Association of Technical College Teachers, Danmarks Tekniske Lærerforening - DTL), lost no time in showing an interest in matters concerning the quality of apprenticeship education after its establishment in 1912. Besides its interest in more general trade union matters such as salaries and working hours, DTL has always also strongly promoted the profession it represents and the quality of IVET.

When daytime instruction was introduced around 1960, DTL teachers were active in developing curricula, texts, technical drawing materials, manuals for workshop training, etc. Groups such as the carpentry teachers' group also published their own journals, discussing technological developments in production as well as the corresponding pedagogic problems and also exchanging ideas on pedagogic/didactic innovations.

In this way the vocational teachers, although primarily considering themselves as craftsmen, have developed a professional identity as teachers.

But the vocational teachers and their organizations have not had much influence on the development of more general rules on structure and content (education planning), which has always been the prerogative of the Trade Committees. If the latter need advice from the college world, they tend to contact the corresponding trade consultant at the Ministry of Education (who normally used to spend one half of his worktime in the Ministry and the other at a vocational college) and a number of hand-picked teachers.

Vocational teachers were - and are - not represented on the Trade Committees. The teachers' organizations do, however, have a seat on the EUR where they are able to articulate their views on youth education policy.

DTL and the Association of Commercial College Teachers, Handelsskolernes Lærerforening (HL), are also active in public debates on youth education in general and IVET politics in particular. They have good contacts with the political parties in Parliament.

Teacher status

Being a technical college teacher is not necessarily a permanent state: vocational subject teachers always have the possibility of returning to private industry in the event that salary and working conditions there are more favourable.

By contrast, a job as a commercial college teacher seems to be a more permanent choice within a career structure.

Summing up, it seems that the status of commercial college teachers could be characterized as identification with a teaching role and a commitment to the teaching subjects as such.

The status of vocational teachers at technical colleges seems to be more complex. They likewise consider themselves as teachers but also take an interest in IVET beyond their own subject field and simultaneously still identify themselves with their original occupation. The teachers of general subjects view themselves differently.

Trainers: concept and responsibilities

The absence of regulations and the prevailing non-intervention ideology makes it difficult to provide a clear picture of trainers in Denmark. Only few studies have been carried out on the subject apart from some unrepresentative case studies developed by DEL. The (rare) discussions on trainers features the following terminology:

Personnel responsible for training in enterprises are immediately and directly responsible for:
- company-based practical training of apprentices;
- supervision of hired personnel;
- further training of skilled and unskilled workers in the enterprise.

In-company training naturally varies in nature depending on the trainer and the time available for training purposes. A distinction can be made between:
- the training manager, who is responsible for planning, organizing and administrating the training provision;
- the trainer, whose main task is providing training and who spends most of his/her working hours on education and training duties;
- the integrated trainer, who is often the person directly responsible for training but is also involved in the production process within the enterprise.

These categories very often overlap in practice. In small enterprises the training manager and the trainer may be one and the same person. In larger enterprises however, these functions are often distinct. Only very large enterprises operate separate training departments.

Empirical findings are scarce. But as part of the Danish contribution to the PETRA research on the training of trainers, in 1990/91 DEL drew up case studies on 16 enterprises in the following sectors:
- building and construction;
- banking;
- electronic engineering and metalworking;
- food (meat);
- retail trade.

The result of the investigations was apparent evidence of more differentiation and professionalization in education and training functions in larger companies. This development originates not from legislation but from internal changes in industry: production is becoming increasingly specialized, thus increasing the need for cooperation between - and institutionalization of - the training dispensed at vocational colleges and within the company.
There is a tendency towards reorganizing training procedures within large industries (banking, retailing, electronics) involving delegation of responsibility to departmental level, establishment of trainer posts, personnel development, job profile analyses, etc.

There is also a trend towards stronger integration of process-dependent and process-independent skills. This means that the productive potential of staff members is playing a role in corporate development, and staff control is becoming less external and more internal.

Employers today appear to want their staff to have not only vocational (and at management level administrative) skills but also social skills (capacity for teamwork, innovation, etc.).

These considerations are gaining ground both in the recruitment of training managers and in the recruitment and training of trainees and apprentices. Interestingly, they are evident both in the service-oriented industries in the survey (banks and supermarkets) and in a specifically leading-edge technology industry (electronic engineering).

To sum up, the case studies from the PETRA research programme suggest:

- an increasing tendency to formalize the training of apprentices within enterprises;
- more attention to the social skills of trainers, this facilitating a move towards training apprentices in a way which promotes internalized control, i.e. geared less to command execution and discipline and more to developing initiative, reasoning and responsibility in the trainee.

Both these trends could be perceived as indicating a growing need for certain pedagogic skills among training personnel.

The importance, emphasized in the 1989 legislation, of closer coordination between college-based and enterprise-based training could also be assumed to support this supposition.

However, for the time being there is no sign of any interest in regulating the education and training of trainers - from industry, from the social partners, or indeed from the political decision-makers.

4 Regulations governing teachers and trainers

Differences do exist between teachers at technical colleges and commercial colleges in various respects.
Teachers at commercial colleges have a specific view of their teaching role. Their professional life and interest is focused on an academic discipline or subject and on the possibility of teaching this at a high level. That high level, however, is not found in the apprentice courses but in the commercial upper secondary courses and in courses of further education.

Teachers of commerce, including those teaching apprentices, are unable to define a peer group in business life, and many of them have no, little or only very distant experience of jobs similar to those for which they are preparing their IVET pupils.

This amounts to a clear difference vis-à-vis vocational teachers at technical colleges. These have themselves completed a relevant IVET, normally they also have at least five years' work experience as skilled craftsmen, and many have maintained good relations with their colleagues on the shop floor and in the trade union. Some of them may even play an active role in formulating trade union IVET policy - which in turn may be promoted in local teaching committees, college boards and the (central) Trade Committees. Technical college teachers can thus be rather influential via their connections with former colleagues.

4.1 Status of IVET teachers

Securing a teaching post at a technical college has always presupposed having recognized occupational skills and a post at a commercial college recognized qualifications in the relevant subjects. A further requirement is that the college authorities judge that the applicant would be a good teacher - though no prior training in pedagogy was or indeed is necessary.
Initial teacher training, the Pedagogicum, begins after commencement of teaching and must be completed within two years if the aspirant is to secure a permanent post with a status similar to that of a civil servant.

A compulsory 12-week teacher training course for technical college teachers was introduced in 1916, but pedagogy was only a small part of its content. Much time was devoted instead to supplementing craft qualifications with better technical drawing skills.
Up to the 1960s vocational teachers had relatively little prestige. Day-time teaching and the establishment of a new IVET system in the 1960s made teaching at vocational college a full-time job. Since this development coincided with very high employment rates, especially for skilled labour, vocational teachers' salaries had to be fairly good in order to attract persons capable of high professional standards. Vocational teachers were better paid than teachers in elementary education but not as well paid as the university-educated teachers in academic secondary education.

4.2 Trainers - no formal education or regulatory requirements

Up to now, regulation of the in-company component of IVET has been very general and no specific education or training requirements are imposed on prospective trainers. The only precondition is that the trainer is a skilled worker in the occupation for which he is providing training.

Accordingly, there is no state-organized training provision for trainers. Moreover, there is no public concern about the lack of such training provision.

Only little information is available on trainers and their activities. A study conducted by DEL in 1990/91 within the PETRA research network framework provides the basis for the following description.

One explanation for the above-mentioned lack of public concern might be that the school-based component of IVET has come to assume primary responsibility for developing the main body of knowledge, skills and techniques. The company-based component builds up on what has been learnt at college and primarily gives the apprentice the opportunity to practise and acquire routine in the use of his/her competences in the social context of the workplace.

4.3 The profile of vocational teachers

The profile of vocational teachers depends on their function at school.

Teachers at business colleges

The profile of teachers at business colleges depends on the content and level of their qualification background:

1 teachers who have completed a basic vocational education and training and have at least two years' work experience in the occupation concerned;

2 teachers who have completed a vocational education and training followed by a further course of study;

3 teachers with an academic background who hold a degree from a teacher training college or university.

Teachers with no training in teaching methodology must complete a postgraduate teacher training course of approximately 500 hours' duration leading to a final examination. The course should be completed within the first two years of employment.

Teachers at technical colleges

The profile of teachers at technical colleges likewise depends on the content and level of their qualification background:

1 teachers who have completed a vocational education and training and have at least five years' work experience in the occupation concerned;

2 teachers who have completed a vocational education and training followed by a further course of study;

3 teachers with an academic background who hold a degree from a teacher training college or university.

Teachers with no training in teaching methodology must complete a postgraduate teacher training course of appoximately 500 hours' duration leading to a final examination. The course should be completed within the first two years of employment.

Great importance is attached to extensive job experience, this being seen as ensuring an optimum level of correlation between college-based study and practical training in the workplace.

Pupil counselling

Each vocational college has a number of counsellors appointed locally from the institution's teaching faculty. They undergo special training for their counselling duties. About one third of their worktime is normally devoted to counselling - on study courses, careers and general personal problems.

The training for counsellors at DEL amounts to 400 hours over a period of two years. Applicants are eligible only if they have previously completed the Pedagogicum at DEL and have several years of teaching experience.

Responsibility for the teaching faculty

Each college, i.e. college director, is responsible for ensuring that its teaching faculty is properly trained. The director is thus responsible for hiring teachers, assessing their expertise and providing for the necessary continuing education or in-service training.

Worktime regulations

A full-time vocational teacher is required to work 1,680 hours per year. Lessons last 45 minutes each, but the time allocated for planning and preparing instruction as well as reduction time arrangements differ from subject to subject. Time spent on continuing training and other work assignments also counts as part of the annual worktime. Thus whereas all teachers have the same number of working hours, the actual number of teaching (contact) hours differs from teacher to teacher.

4.4 Duties of a technical college teacher

Teachers employed at technical colleges teach on one or more of the following courses:

- initial technical training and education (apprenticeship courses);
- higher technical examination courses (HTX);
- advanced courses for technicians (tertiary education);
- continuing vocational training courses.

The teachers are required to follow a set of guidelines concerning subject matter coverage and the structure of their instruction, though they do have a broad range of options in planning their lessons (often referred to as "freedom of pedagogic method"), which allows them to develop their own approach to meeting the requirements laid down in the teaching plans.

The teacher plans the learning content to be covered. Every lesson must be planned in such a way that the presentation of the subject matter and the learning processes induced take account of the educational background and motivation of the pupils. Teachers of some subjects are also required to correct written work assignments. Teachers normally teach only the subjects for which they have been trained.

A number of teachers simultaneously serve as education and vocational guidance specialists at the colleges where they are employed; some teachers are employed part-time as subject advisers by the Ministry of Education.

Conditions of appointment

An understanding of and skills in teaching, together with a commitment to the subjects to be taught, are preconditions for appointment as a teacher at a technical college. Each college advertizes for new teaching staff as required. The college director is responsible for selecting a suitably qualified person, usually after conferring with the new appointee's future colleagues. To secure a permanent post the applicant must meet all the formal requirements concerning educational background and work experience. Training in pedagogy is also compulsory and this must be completed within the first two years of employment. Specific conditions of employment vary from one educational area to another.

Salaries and employment situation

The monthly basic salary of a teacher at a technical college is in the range of DKK 16,000 - 24,000 (1 ECU = 7.3 DKK) depending on qualifications and length of service. Various additional payments supplement this basic salary.

The unemployment rate among technical college teachers is low. At the time of writing additional teachers are being sought in colleges throughout the country.

4.5 Duties of a commercial college teacher

Teachers at commercial colleges teach on one or more of the following courses:

- initial commercial training and education (apprenticeship courses);
- higher commercial examination courses (HHX);
- diploma course in advanced computer studies;
- diploma course in specialized computer studies;
- short-cycle higher education programmes (market economists and academy courses);
- diploma courses in specialized business studies;
- continuing vocational training courses.

The teachers are required to follow a set of guidelines concerning subject matter coverage and the structure of their instruction, though they do have a broad range of options in planning their lessons (often referred to as "freedom of pedagogic method"), which allows them to develop their own approach to meeting the requirements laid down in the teaching plans.

The teacher plans the learning content to be covered. Every lesson must be planned in such a way that the presentation of the subject matter and the learning processes induced take account of the educational background and motivation of the pupils. Teachers of some subjects are also required to correct written work assignments. Teachers normally teach only the subjects for which they have been trained.

A number of teachers simultaneously serve as education and vocational guidance specialists at the colleges where they are employed; some teachers are employed part-time as subject advisers by the Ministry of Education.

Conditions of employment

Applicants for a teaching appointment at a commercial college have to meet certain formal requirements concerning educational qualifications and relevant work experience. The educational requirements differ from subject to subject and also depend on the level of the instruction to be given. The work experience requirement is two years (not including teaching).

Salary and employment situation

The salary of a commercial college teacher depends on the individual's qualification background, the level of the instruction provided and length of service. Salaries are in the range of DKK 17,000 - 27,000 per month.

There is no unemployment among commercial school teachers. At the time of writing (December 1996) there is no evidence of an additional need for recruitment.

4.6 Retirement

The maximum pensionable age for persons employed in the public sector is 70. No such limit exists for persons in private employment, but locally established regulations normally exist to govern pension conditions and pensionable age. The average retirement age is declining, 65-67 years being the norm at present. Persons aged 67 and above have the right to a tax-funded state pension in an amount which is independent of former income. In addition, employees in retirement receive a graduated pension (ATP) from a compulsory scheme for employees financed by employers (2/3) and employees (1/3). The existence of many contractual pension arrangements and supplementary private pension schemes means that many employees have more retirement income than the state pension alone.

5 Training paths leading to qualification as a teacher or trainer

Since, as explained above, there are no training requirements for trainers, this chapter deals only with IVET teachers. Some important points have already been made, and these should be considered as being supplementary to the following, more formalized information.

5.1 Education requirements for employment in vocational colleges

Until 1960 the majority of teachers were employed on a part-time basis and had to meet only few requirements concerning qualifications. At that time no independent institution was responsible for providing training for vocational teachers. In 1969, DEL was set up as a specific provider of training for teachers in commercial and technical colleges.

In the 1970s the Pedagogicum and DEL's continuing teacher training programmes became an important part of efforts to develop and coordinate the teaching of general and vocational subjects in EFG.

The inflow of teachers of general subjects led to a regulation, passed in 1974 and still in force, laying down qualification requirements for technical college teachers.

Requirements applicable to all teachers:
- minimum of two years of relevant labour market experience;
- minimum general education background comparable to academic upper secondary level in social science plus a minimum of two of the following subjects:
  1 Danish;
  2 mathematics or science;
  3 foreign languages;
- general education in pedagogy common to teachers of general and vocational subjects;
- understanding of special needs.

Requirements applicable to qualifications in the teacher's main area of teaching:
- teachers of vocational subjects: a relevant apprenticeship training plus occupation-relevant further education plus a minimum of five years of labour market experience;
- teachers of general subjects: education in the subjects concerned to the level required for teaching in primary education, secondary education or university education;
- both categories of teacher: training in occupation-related pedagogy and didactics.

Realizing these intentions was a matter of great concern to the teacher trade unions HL and DTL. DTL in particular strove to secure paid leave from teaching to undergo the Pedagogicum and continuing training courses. It even boycotted DEL's courses until a solution was arrived at in 1982 in which the Ministry clarified the rules and defined the duties of technical colleges.

It should be stressed that there is no specific course of education leading to qualification as a vocational teacher in the general education system (i.e. unlike the case for teaching in elementary or academic secondary education). Applicants who meet the abovementioned requirements are awarded a teaching appointment in a technical college and then have to undergo the Pedagogicum training (the college is obliged to organize this), which is itself an alternance training consisting of a combination of courses at DEL and teaching practice (including project and development work) at the technical college under the guidance of a supervisor (who has also been trained at DEL specifically for this duty).

6 Initial training programmes for teachers and trainers

6.1 Description of the Pedagogicum

Basic vocational teacher training in Denmark is primarily a course in pedagogy which supplements the technical skills and practical work experience of skilled workers wishing to become teachers.

This situation differs from that in most countries, where usually one can study technical subjects and pedagogy to qualify as a vocational teacher after, say, four years. It is regarded as an intrinsic merit of the Danish system that teachers in vocational colleges have a very real understanding and hands-on experience of production processes in industry and that the college-based component of IVET (1/3 of the course) can be effectively integrated with the on-the-job component of the training.

Vocational teacher training takes place at DEL - the Danish Institute for the Training of Vocational Teachers. DEL carries out not only teacher training but also consultancy work, research and development, etc. DEL has five regional branch establishments so that the training can be delivered in close proximity to the colleges.

Basics The basic teacher training for teachers at technical colleges was radically reformed in 1990 in order to meet future skill demands. The basic idea was to create more continuity in the teacher training process as a whole and ensure closer cooperation between the delivery institutions and the persons participating in the training.

Principles A The reformed initial teacher training plan is based on the following principles:

- to provide participants with a common foundation for continuing teacher training;
- to give participants knowledge and experience of a broad range of methods of teaching, learning and work;
- to be less academic than in the past;
- to strengthen the participants' capacity for written communication on issues of pedagogy;
- to reinforce the alternance training concept (interaction between DEL and vocational colleges);
- to ensure that all supervisors of the participants' teaching practice undergo a continuing training course enabling them to act on the principles of the reformed teacher training;
- to help integrate the participants' personal, social and professional skill development;
- to motivate the participants to work for innovation and development in the colleges where they are employed;
- to serve as a broad-based initial training which has to be followed up by more specific studies within the framework of continuing training and individual development.

Objectives B The objectives of initial teacher training are to enable the teacher to:

- analyse students' and trainees' backgrounds and adapt the instruction accordingly;
- plan new courses;
- select the content for a teaching sequence, plan such a sequence and develop new teaching materials;
- evaluate his/her own teaching;
- analyse training needs in collaboration with firms, organizations and institutions.

Teaching practice

C The teaching qualification is obtained through teacher training undergone after the teacher has begun teaching in a technical college. Applicant teachers are hired by colleges on the basis of their technical qualifications and must obtain the teaching diploma within two years of their appointment.

D The initial teacher training involves approximately 500 hours of instruction plus individual study and preparation of the final project which takes the total duration up to about 600 hours. Normally the course runs over a period of 12 months.

Theory and practice

E The teacher training has two components:

- a theory component (400 hours), organized by DEL, covering the theory of education, psychology and didactics;
- a practical component (100 hours), carried out in a technical college under the supervision of an experienced teacher.

The theory and practice components are very closely integrated, this being ensured by means of continuous and formalized cooperation between DEL staff and the teaching practice supervisors.

Final exam

F The teacher training leads to a final examination comprising two parts:

- an oral examination based on the final project work;
- a practical test during which the candidate plans and implements a teaching sequence and subsequently analyses and evaluates that sequence.

Certificates are awarded by DEL.

Curriculum

G The curriculum for the basic teacher training course is as follows:

Module 1	Introductory seminar (2 days).
Module 2	Teaching practice I (at the teacher's own college).
Module 3	Planning and implementation of short teaching sequences (15 days).
Module 4	Teaching practice II (at the teacher's own college).
Module 5	Planning of courses and longer teaching sequences (15 days).
Module 6	Teaching practice III (at the teacher's own college).
Module 7	Project work: students' background and teaching (15 days).

Module 8	Project work: analysis of skill needs in industry, the crafts, trade/commerce and services (10 days).
Module 9	Final project (approx. 100 hours).
Module 10	Teaching practice IV.

Occupational analysis

H Module 8, in particular, is a new element in the Pedagogicum where the focus is on the skill-generating function of technical colleges - balancing the supply of skills with the requirements of industry. The participants are required to analyse production processes in their own occupational field, interpret the specific interplay between technology and work organization there, and understand the types of job functions being performed in different firms. As an integral part of a basically humanistic theory course, this element is important in that it shows the trainee teachers that their former skills, knowledge and work experience is of decisive importance as a basis for curriculum planning within the framework of their college teaching.

Extention

I Within the last year the version of the Pedagogicum intended for technical college teachers has been somewhat expanded. For commercial college teachers, however, the 1996 reform represents a major change insofar as they are now subject to the same Pedagogicum regulations as technical college teachers.

Under the new Pedagogicum structure, which takes effect on 1 January 1997, the normal total duration of training will be three semesters (11/2 years), of which 14 weeks are spent at DEL and 4 weeks are used for practical work at the participant's own college involving teaching and observation exercises (approx. 2/3 of the 4 weeks) and instruction and guidance on subject-specific didactics and methodology (approx. 1/3).

6.2 Summary of Pedagogicum contents

The main elements of the training in pedagogy undergone by vocational college teachers in Denmark are:

- education theory;
- educational psychology;
- youth and adult pedagogy;
- teaching planning and didactics;
- teaching and instruction methodologies;
- industrial sociology and competence theory (at a level which gives teachers insight into the skill demands their pupils will meet);
- new experience-based concepts of pedagogy, group-format and problem-oriented learning processes.

7 Continuing training of teachers and trainers

7.1 CVE&T for vocational teachers

There are no formal requirements concerning the amount or level of CVE&T in Denmark, though two weeks were prescribed from 1959 on. Until 1991 DEL offered its CVE&T provision free of charge.

Formerly, DTL and HL were actively involved in continuing teacher training. Union groups from different occupations and teaching subjects cooperated with their respective consultants from the Department of Vocational Education at the Ministry in setting up joint committees with DEL staff in order to formulate what would subsequently be the priorities for continuing training within their respective fields, often with preference being given to subject-specific rather than pedagogic/didactic training.

The criticism voiced against this model was that it supported the purely professional interests of the teachers rather than the needs of the colleges, which were supposed to use CVE&T as a means of improving the quality of their IVET.

This, at least, was the opinion of college directors - not necessarily that of the teachers' unions.

Reform

The 1989 reform changed the organization of CVE&T for teachers. Most of the state grants previously awarded to SEL for CVE&T were reallocated on the basis of a "taximeter rate" to Denmark's approximately 130 vocational colleges which were then at liberty to use the CVE&T funding at their discretion.

This amounted to a radical change of principle as far as vocational teacher training was concerned. Half of DEL's state-funded budget was redirected away from DEL and channelled towards the users (colleges) to make teacher qualification development demand-led: technical colleges can now buy in services from where they wish, choosing from a large number of course providers operating in a relatively competitive market. DEL still plays a key role in providing career advancement courses for vocational teachers, but its previously dominant role in CVE&T is now being strongly challenged by private companies, professional organizations, institutes of technology and the colleges themselves.

Some of the funding is still used to send vocational teachers to DEL courses, but now colleges have to pay for the tuition. The remainder is used to purchase courses from other educational institutions, private consultancy companies, etc.

Colleges' responsibility

Finally, colleges have become rather active in organizing their own teacher CVE&T, often combining this with organizational development projects and engaging DEL to monitor such projects.

The initial vocational teacher training (Pedagogicum) was not affected by the new resource allocation system introduced by the 1989 reform. The Pedagogicum was, however, reformed in 1989/90, but the changes made were more in preparation for the 1991 education reform and for meeting the demands arising from the restructing of IVET.

The 1989 reform also paved the way for decentralizing the planning of instruction and for closer cooperation between colleges and enterprises and between teachers and trainers as a means of promoting higher quality IVET.

Skill analyses were introduced as means of gaining more insight into the developments taking place in the areas of industry and business where IVET pupils would ultimately seek employment. This was intended to keep curricula up to date in terms of both content and teaching methodology. The pedagogic approach was widened, moving away from merely describing how things should be done towards also discussing why this is so and allowing pupils to plan their own work, seek advice, take their own decisions, and monitor the quality of their work.

7.2 Advanced study in vocational pedagogy (EO)

Issues such as those referred to above are also important for the CVE&T provided by DEL. They, together with others arising in connection with the major changes taking place in skill structures, the growing general interest in human resource development, etc., were taken up to form the focus of a more advanced course in vocational pedagogy, didactics and organizational analysis as part of the 1989 reform. This two-year (half-time) advanced study course was offered to vocational colleges from 1991-1994 by DEL acting on behalf of the Ministry of Education. The Ministry of Education was keen to offer colleges the opportunity of training a number of initiators/super-planners. The course was subsequently discontinued but negotiations for launching a new version of it are currently taking place.

7.3 Detailed description of the EO

The two-year course in vocational pedagogy (EO, in German "Berufspädagogik") was launched in August 1991, focusing on skill analysis and its "translation" to education planning, pedagogy and didactics.

Vocational training reform had given vocational colleges the possibility of responding much faster to new skill demands from industry by developing new training schemes and new forms of instruction. Management of these training schemes is based on management by objectives, with the central Trade Committtee setting the training objectives and the colleges planning the schemes in detail. Colleges can also themselves take the initiative to develop new training schemes.

Translation problem

There is a serious translation problem, however, since there is a wide gap between the relatively unformalized skill analyses on the basis of which the Trade Committees set the objectives and implementation of the resulting studies by the colleges in the form of curriculum specifications. This translation problem permeates the entire skill and training field - not only in Denmark.

Skill studies in industrial sociology have traditionally been part of the planning of vocational training in Denmark, but these are in stark contrast to the pragmatic workplace studies conducted by the Trade Committees. Moreover, colleges start their curriculum planning too late, and they remain too close to perceived educational problems and too far detached from job function studies. There is thus a sharp division between occupational and industrial sociology on the one hand and educational sociology and pedagogy on the other.

The two-year advanced course in vocational pedagogy established by DEL was intended to serve as a solution to this translation problem by enabling vocational college teachers to carry out skill analyses themselves in firms located near the college. The main intention was to bridge the gap between occupational and industrial sociology, training sociology and pedagogy both within the course and in the research associated with it. A further bridging effect was expected to narrow the gap between vocational colleges and industry, the aim here being to upgrade the quality of school/workplace interaction within the Danish dual system.
The teachers were trained to assist with the work of the Trade Committees, to establish links between recognized skill needs and curriculum planning and thus to be able quickly to produce suitably skilled personnel.

An important element of the course is that the planning of and instruction in this supplementary training course are carried out largely with the help of skill analysts from universities and institutes of technology. The translation effect is expected to benefit from the expertise of all parties concerned.

7.4 Detailed description of continuing training provision for vocational teachers

The continuing and in-service training available for technical college teachers covers a multitude of courses in general pedagogy and psychology as well as courses in subject-specific teaching theory and methodology.

The current situation

A structural reorganization of this training has been taking place over the past few years, with emphasis being clearly shifted away from traditional courses in favour of school-based development and consultancy. The colleges themselves formulate their training requirements and procure corresponding services on the open market. Teacher competence has been strengthened by this shift, and continuing training is today largely demand-driven.

Analysis of a college's specific needs has become the focus of attention as new educational principles such as action learning have been introduced on an increasingly widespread basis. At the same time, value-for-money considerations also play an important role in the procurement decisions taken by colleges. Most continuing training activities are now run on a user-paid basis, the user being the college concerned.

Drawing on the initiative taken by DEL and other institutions, many technical colleges are today learning organizations operating with an inspiring learning environment. They have made this transition by launching development projects, action learning programmes, study visits to other countries, etc. Although traditional courses, seminars and conferences will continue to play a role in the skill development process in the future, these elements of the overall skill development repertoire are clearly of diminishing importance. Continuing training of teachers is now seen as an integral part of a wider strategy for developing simultaneously the professional expertise of each individual teacher and the profile of the vocational institution as a whole.

New trends in CVE&T for vocational teachers

Denmark is now (1996) at a turning point. Teacher development is today seen as part of an overall competence-building strategy in most colleges, and learning is perceived as the result of many activities rather than merely that of participating in formal education events.

As technical colleges increasingly take on responsibility for competence development by formulating their own human resource development policies, arranging for in-service training, and participating in development projects at various levels, they are positioning themselves for more speedily passing on technical and professional skills for the benefit of local and regional industry.

Counsellors and developers

The changing organizational structure and financing of CVE&T is also promoting a widening of the scope of CVE&T beyond the teaching function in the narrow sense of the term. Colleges are trying to expand their fields of activity, e.g. by offering skill needs analyses and support in training planning for businesses in their region.

Taking this philosophy further, colleges could also develop new continuing training schemes to meet the identified skill needs of industry. Such close links between colleges and enterprise could also be useful in the quest to find new practical training places for apprentices and in making teachers better aware of how their apprentices spend their time during their practical training periods in industry.

Modules

Summary of DEL modules for the education counsellor course:

The course is structured in five semesters, each addressing different topics as follows:

Theme 1: Education counselling at vocational schools;
Training tracks at vocational schools.

Theme 2: Student typology for the various training tracks at vocational schools;
Counselling methodology.

Theme 3: The non-vocational education system in Denmark;
Education opportunities at international level.

Theme 4: Economic life and the labour market in Denmark;
Possibilities of employment abroad;
Cooperation and teamwork for counsellors.

Theme 5: Final project. The final project report forms part of the final examination.

Teaching planning

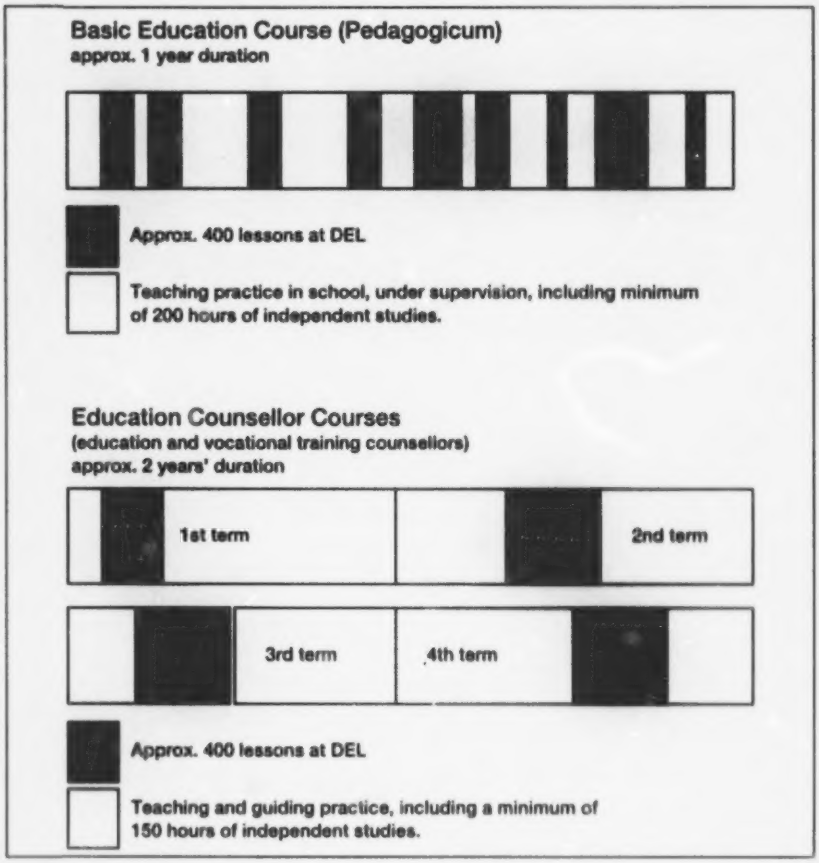
The decentralization of resources for CVE&T for teachers has also made it possible to concentrate on developing a creative local teaching plan on the basis of close cooperation between teachers of general subjects and vocational subjects in an effort to promote mutual understanding and skill development in general subjects, core subjects, specialized subjects and workshop instruction. Such plans are much appreciated by the pupils.

The average teaching faculty per college amounts to approximately 100, of whom about 70% are vocational teachers. But as these teachers come from different trade backgrounds, some form of organizational development (e.g. some types of matrix organization), is also needed in order to realize this type of IVET development through CVE&T provision for vocational teachers.

CVE&T in the teaching of occupation-specific subjects

A weak point in the decentralization policy is the fate of occupation-specific didactics. Promoting this would call for the involvement of teachers from different colleges who teach the same vocational subject, e.g. cooperation within the carpentry trade in order to develop teaching materials, etc.

Since 1990 this type of CVE&T seems to have disappeared as it allegedly does not reflect a market demand from the colleges. Although teacher unions are still expressing an interest in such CVE&T for their members, college management tends to allocate only relatively low priority to union wishes.



Basic Education Course (Pedagogicum)
approx. 1 year duration

■ Approx. 400 lessons at DEL
□ Teaching practice in school, under supervision, including minimum of 200 hours of independent studies.

Education Counsellor Courses
(education and vocational training counsellors)
approx. 2 years' duration

■ Approx. 400 lessons at DEL
□ Teaching and guiding practice, including a minimum of 150 hours of independent studies.

Occupation-specific CVE&T

Purely occupation-specific CVE&T (technology update training) has likewise disappeared from DEL's CVE&T programme. DEL used to track down and hire external expertise on a short-term basis to provide instruction on courses of this type.

What has actually disappeared is an organizational channel for articulating and aggregating the need and demand for occupation-specific CVE&T among vocational teachers employed in colleges across the country. If teachers of, for example, electronics at a certain technical college succeed in convincing their college management that they need training in a new technology, the college itself then has to:

- find an appropriate provider;
- consider whether the envisaged CVE&T should be opened up to other colleges with training needs in electronics (coordination).

It is difficult to estimate the degree to which CVE&T in occupation-specific pedagogy and occupation-specific CVE&T have declined, but it is certain that the devolution of responsibility for the CVE&T of vocational teachers to the colleges -plus competition among colleges for higher teaching quality in order to attract pupils/customers- has created much more awareness of the possibility of using teacher CVE&T as an integrational tool in promoting organizational development and better training standards.

It will be possible to describe more accurately the volume and structure of Danish vocational CVE&T activities in January 1997, when a teacher skill analysis covering some 1,000 vocational teachers (approximately 10%) is to be published by DEL:

To sum up, the 1989 financial reform has resulted in a demand-driven system within which DEL has had to redefine its CVE&T market strategy. DEL's self-initiated CVE&T activities traditionally focused on more general areas of vocational pedagogy, but many new types of CVE&T activities have now been developed in response to the interests and needs of colleges. DEL has been an active partner during this transition, working throughout in close cooperation with the colleges.

Principles and content of DEL training courses

The basic principles governing the content of DEL training courses are as follows:

- democratization of education;
- decentralization of education and of planning projects;
- systematic promotion of professional education development and planning projects;
- skill analyses;
- multicultural aspects of education;
- integrated teacher development processes with an integrated approach to occupational and theoretical aspects;
- use of information technology in teaching;
- curriculum development on the basis of target and framework control principles;
- coherence in the development of professional, academic and personal competence;
- development of textbooks and teaching materials;
- development of teaching methods, teaching practice and forms of cooperation;
- development of test forms and evaluation criteria.

One of the aims of all DEL activities is that each individual teacher should demonstrate a high professional standard combined with adaptability to changes in teaching methods and forms of cooperation.

8 Useful addresses

Ministry of Education and Research
Frederiksholms Kanal 21
DK-1220 København K
Tel.:+45 - 33 92 50 00
Fax: +45 - 33 92 55 47

ESA, The Vocational School Department
of the Ministry of Education and Research
H.C. Andersen Boulevard 43
DK-1553 København V
Tel.: +45 - 33 92 56 00
Fax: +45 - 33 92 56 66

Ministry of Labour
Laksegade 10
DK-1358 København K
Tel.: +45 - 33 92 59 00
Fax: +45 - 33 12 13 78

Labour Market Training Authority (AMS)
Blegdamsvej 56
DK-2100 København Ø
Tel.: +45 - 35 28 81 00
Fax: +45 - 35 36 24 11

DA, Danish Employers' Association
Vester Voldgade 113
DK-1552 København V
Tel.: +45 - 33 93 40 00
Fax: +45 - 33 12 29 76

LO, Federation of Trade Unions
Rosenørns Allé 12
DK-1634 København V
Tel.: +45 - 31 35 35 41
Fax: +45 - 35 37 37 41

DTL, Union of Teachers at Technical Schools
Rosenvængets Hovedvej 14
DK-2100 København Ø
Tel.: +45 - 31 42 78 88
Fax: +45 - 31 42 28 22

HL, Union of Teachers at Commercial Schools
Godthåbsvej 106
DK-2000 Frederiskberg
Tel.: +45 - 31 10 88 00
Fax: +45 - 38 88 22 60

GL, Union of Teachers in Upper Secondary Education
Lyngbyvej 32
DK-2100 København Ø
Tel.: +45 - 39 15 30 60
Fax: +45 - 39 15 30 30

LVA, Association of Teachers in Adult Vocational Training
Havne Allé 33
DK-8700 Horsens
Tel.: +45 - 75 62 35 44
Fax: +45 - 75 62 80 04

9 Institutions and courses

DEL, The Danish Institute for the Training of Vocational Teachers
Rigensgade 13
DK-1316 København K
Tel.: +45 - 33 14 41 14
Fax: +45 - 33 14 42 14

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11 Acronyms and abbreviations

AMU	Arbejdsmarkedsuddannelserne Labour market training centres
CVE&T	Continuing vocational education and training
DA	Dansk Arbejdsgiverforening Danish Employers' Confederation
DEL	(formerly SEL) Danmarks Erhvervspædagogiske Læreruddannelse Danish Institute for the Training of Vocational Teachers
DTL	Danmarks Tekniske Lærerforening Association of Technical College Teachers
EFG	Erhvervsfaglig grunduddannelse Initial training
EO	Vocational pedagogy
EUR	Erhvervsuddannelsesrådet Vocational training council
EUU	Erhvervsuddannelsesudvalgene Vocational training committee
HL	Handelsskolernes Lærerforening Association of Commercial College Teachers
IVET	Initial vocational education and training
LO	Landsorganisationen i Danmark Danish Federation of Trade Unions
ML	Metalindustriens Lærlingeudvalg Apprentice Board of the Metal Industry
PKU	Praktikpladskompenserende undervisning Compensatory training for on-the-job training
STL	Statens Tekniske Læreruddannelse Danish Technical Teacher Training Institute

Finland

1 Introduction

Finland is one of the most northern countries in Europe. The arctic circle crosses the country between Lapland and what is referred to as the main country. Thousands of lakes, hills, mountains and ridges splinter the countryside. An archipelago along the southwestern coast and many scattered lakes mean that communications are difficult in many regions. Four distinctive climatic seasons place rigorous demands in terms of endurance not only on the people but also on buildings and communications and technology infrastructure. The proximity of unspoilt nature populated with wildlife and the distinctively seasonal climate make a typical Finn pursue hobbies like outdoor activities and sports and spend weekends in a sauna-cabin.

Finland has a long tradition of family-centred child-rearing, appreciation of education, and personal and cultural integrity. Cultural heritage and values are more uniform than in many countries of Europe: the Lutheran reformation religion, the Finnish language, a very high literacy rate, and a keen interest in reading books and newspapers. The national epic 'Kalevala' celebrates wisdom, knowledge, work skills and learning as the source of respect and well-being. "Do-it-yourself" and handicraft traditions are still strong. Most Finns have grandparents or other close relatives who live or have lived in the countryside as farmers.

The Finnish economy stands "on wooden feet". Timber, pulp and paper are well known as traditional Finnish products. Equally important today are the mining and metalworking industries, peat processing technology, shipbuilding, petrochemical and environmental technologies, and numerous other hi-tech industries. National education policy stresses the need for high-quality products and technologies produced by a highly qualified workforce.

The first step on the path to a modern industrial economy was taken in Finland during the second half of the 19th century with the export of timber and dairy products. The next profound change in Finland's social structure took place after World War II with the shift away from agriculture and rural life. People moved into the towns and found employment mainly in the metalworking industry.

1.1 Population

Except for the southern most area and the coasts, Finland is sparsely populated (15 persons/km^2). Its population of five million live mainly in small cities and towns (62%), and in and around the the capital, Helsinki. Only few cities have more than 100,000 inhabitants. Despite the long distances, connections are good, and people can move easily for work or study purposes. The level of social security is high.

There are two main minority communities: Swedish-speaking Finns (about 300,000), and Lapps (about 20,000). Both have a recognized official status and a right to education in their mother tongue. Swedish-language schools and colleges exist at every level of education, located mainly in the western and southern coastal areas and the archipelago. The Åland Islands district with approximately 23,000 Swedish-speaking inhabitants enjoys very extensive autonomy in terms of education and civil rule. The vocational education and training provision for Swedish-speaking pupils and their teachers is included in this report, but the statistics exclude the Åland Islands district. The legislation governing Swedish-language colleges and their students does not differ from the standard legislation in terms of either organization or financial resources.

1.2 Infrastructure

The outstanding feature in the Finnish Constitution and administration system is the principle of local self-government. Each municipality has its own locally elected house of representatives and municipal government which are responsible for the welfare of the local community. The municipality collects taxes, transacts its own business and runs local public services. Education and social services constitute the main items in the national budget. The state can impose obligations on municipalities only by means of acts of parliament.

The financial system which allocates revenue to the state and local authorities is complicated, and it would be difficult to explain the burden-sharing for, e.g., education. But with only few exceptions it is true to say that all education is financed by society at national or local level. For example, if the average cost of one pupil study year at a certain college is ECU 5,200, the Ministry of Education remits that amount to the college and subsequently invoices -in a very complicated way- the pupil's home authority for the amount of ECU 2,500.

The state supports each municipality to a degree determined by the latter's population figure and average revenue (which is affected by factors such as relative isolation, average household income, population sparsity, unemployment, etc.). The municipality arranges its education services either alone or in cooperation with other municipalities; in some cases municipalities establish a joint-stock education company to run the colleges prescribed by law.

Municipalities (or groups of municipalities) own their school and college buildings and are responsible for maintaining and equipping them. Funding is available from the state budget for new buildings. Municipalities establish or close down colleges on the basis of a national volume plan drawn up by the Ministry of Education.

1.3 Education system

Finland has had universities since 1640, teacher training colleges for primary and lower secondary education since 1863, and vocational teacher training colleges since the 1950s. The major educational reform of the early 1920s required every 7 year-old to attend a municipal 'folk school'. The next leap forward came in the 1950s when post-war society changed from agricultural to industrial and state vocational colleges were established to generate the necessary occupational skills. Vocational education was originally run under the auspices of the relevant sectoral ministry but was later united under Ammattikasvatushallitus, AKH, (National Board for Vocational Education), and ultimately administrated jointly with general education by Opetushallitus, OPH (National Board of Education). Higher education is the responsibility of the Higher Education Department of the Ministry of Education (OPM).

Education at the Basic School is compulsory and extends over nine years. It consists of six primary and three secondary grades, though the border line between primary and secondary education is disappearing. School begins at the age of seven. The voluntary "zero grade" at the age of six, prior to the first year in Basic School, is an innovation which is already available in some municipalities. Nursery schools are common and are attended by some 60% or more of each age cohort of 3 to 6 year-olds. Nursery schools operate for some 20 hours per week and have a defined curriculum and qualified teachers.

The tenth grade after Basic School is voluntary and is opted for by those wanting a further year of general education and those who are unsure about their career.

The general university entrance qualification is the Finnish baccalaureate, which is obtained on completion of three years of upper secondary education. Subject matter at this level is presented in modular courses without any formal grading. On completing a certain amount of study, pupils take the national baccalaureate examination, which is held twice yearly. Vocational education pupils have some special possibilities for entering certain university faculties.

The Finnish education system is described in Figure 1.

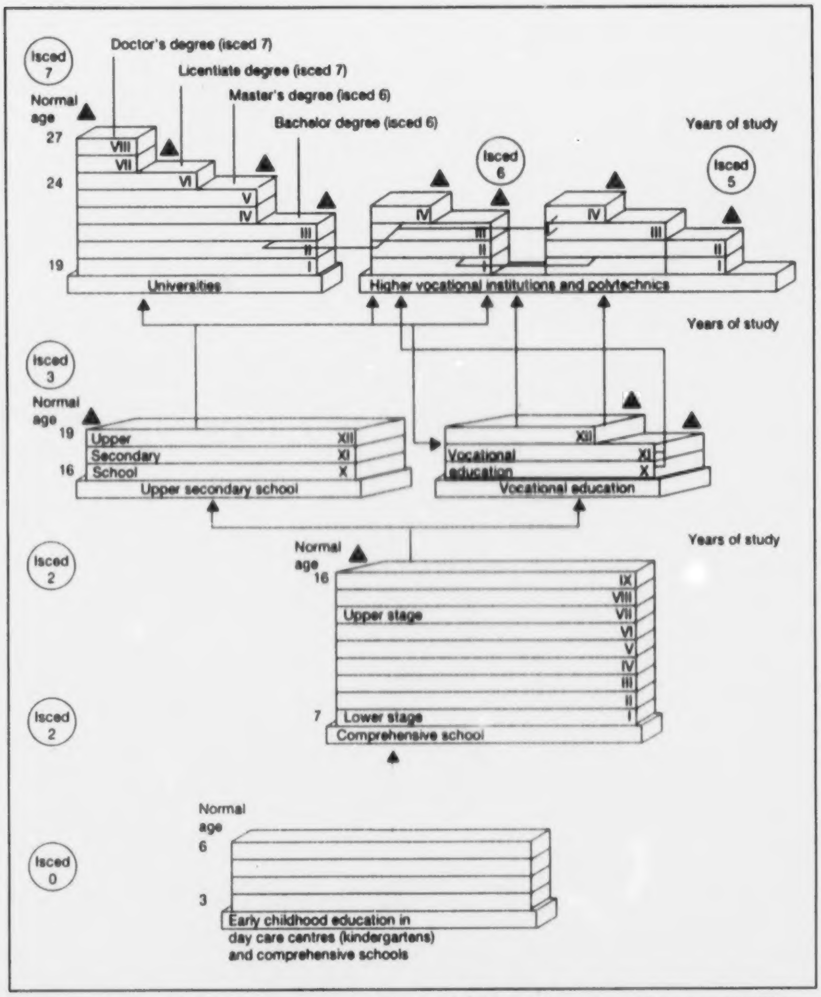

Figure 1: The education system in Finland (Education at a Glance, OECD, 1995).

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1.4 Reforms in upper secondary education

In 1995/96 the government tabled five pieces of educational legislation to reform and clarify the structure of education in Finland and prepare for changes in vocational education and qualifications.

Larger units

1 The first reform was to place all upper secondary education under the auspices of the municipalities. Some vocational colleges (Ammattioppilaitos, AOL) had previously been state-run colleges. Only special vocational education colleges remained national institutions.
Prior to this reform, the role of OPH had been changed. The degree of regulation and centralization was reduced, and the autonomy and responsibility of individual colleges (and their municipal owners and local trustees) were increased. The structure of OPH had already been reformed with the merging of the vocational and general education boards and the abolition of OPH's vocational sector operations.

The result of this restructuring was the formation of larger units of cooperating AOLs working on local curriculums and searching for new regional possibilities for closer cooperation with industry.

Qualification system

2 The second reform was a new vocational qualification system for adults, Ammattitutkinto, AMTU, which changed adult education by attaching greater importance to work experience in vocational certification. AMTUs can certify not only school-type learning but also learning at the workplace and independent study. The new legislation emphasized the practical and workplace aspects of occupational skills and the importance of a modular structure in developing vocational competence. Although planned for adults, the system is exerting a growing influence on secondary education. Unlike in 16+ vocational education, the content of vocational education and competence in the AMTU system is not determined by curricula.

Transfer

3 The third piece of legislation concerned Ammattikorkeakoulu, AMK (polytechnics). It clarified the border line between secondary and tertiary vocational education and opened up previously dead-end tracks for pupils who had chosen the vocational sector of upper secondary education. The former so-called institution-level examinations (similar to a technician course, ISCED 4), which were typical of vocational colleges, remained but are to disappear eventually. Vocational colleges were divided into two types: upper secondary vocational colleges and tertiary level polytechnics. When the AMK network is fully operational a higher education access point will be available to approximately 60% of each age cohort, either to a university (ca. 35-40%) or to an AMK (ca. 60-65%).

Pilot AMKs commenced operations in the early 1990s. The first acquired a legal status in 1996, and the network is currently being expanded. The total number of AMKs was originally expected to be 60, but now it seems that the completed network will consist of about 30. The name 'polytechnic' - the English translation of AMK - has been a controversial issue in Finland, and in fact 'polyvocational higher education college (or institute)' would be a more apt title because these institutions cater for all vocational sectors, not only technical sectors. AMKs differ from universities in terms of their administration: they are locally run and financed, have close contact with industry, and do not issue higher degrees or undertake scientific research. They also differ in terms of their teaching faculty structure: no professors or faculties but a requirement for teachers to have a certified training in pedagogy.

Legislation 4 The fourth initiative was the Ministry Paper on Unified Educational Legislation (1996). Conventionally, every type of college (general or vocational), or vocational sector (cf. their different traditions and histories), and every level of education (youth or adult, initial or continuing) have had their own statutes. During 1997 the Parliament will discuss a single structural act to govern pre-school, primary and secondary education. The new initiative will help upper secondary colleges establish new study programmes involving a combination of vocational and academic subjects, develop new teaching faculty structures and build up a local identity.

Teacher training 5 The fifth statute was the Vocational Teacher Training Act (1.8.1996). The previously - for historical reasons - fragmented teacher training colleges and departments (more than 20 in number) were restructured into five vocational teacher training colleges, Ammatillinen opettajakorkeakoulu, AOKK. All other teacher training had recently been shifted to the faculties of pedagogy of the universities, the reasons being closer contact with education research, the national importance of the teaching profession, the national financing of teacher training, and the wishes of the teacher unions. Vocational teachers are the only exception to this principle. The arguments for merging with the polytechnics were closer links with industry and support for the development of the new AMK network.

2 Initial vocational education and training

The Finnish system has focused on the importance of vocational education for young people since the 1960s. AOLs provide a study place for every 16+ student who is not proceeding to upper secondary education. At least three years of study are available to everyone on completion of Basic School, the options here being to continue a general academic education at an upper secondary school or take a 2-3 year course in occupation-related studies at a vocational college. Further options at this stage are to embark on an apprenticeship or simply to start work - though these options are only rarely chosen. After secondary education, the options are to study for a higher education degree at a university, to study for an institution-level degree at a vocational college, or to study for a higher education vocational degree at a polytechnic.

2.1 Volume

The relative numbers of students from each age cohort opting for upper secondary schools and vocational colleges differ slightly from one district to another. In 1994, upper secondary students accounted for 48.6% of 16-18 year-olds and vocational college students accounted for 29.6% of 16-22 year-olds.

Volume planning is the responsibility of the Ministry of Education, which also issues guidelines for the location of colleges. The volume of vocational training dispensed will remain roughly at the current level until the end of this century. The diminishing age cohorts (currently about 65,000 pupils annually) will be compensated for by the increasing demand from adults for all types of continuing education and training. The intake into initial vocational training is and will remain close to 75,500 students annually. In the year 2000 and thereafter, the intake of 16+ vocational students will be 36,300 or 55% of each age cohort.

Sixty per cent of each age cohort will proceed to tertiary education at universities or polytechnics, signifying an estimated intake of 39,200 higher education students per year. The AMKs will source their students from upper secondary schools or vocational colleges. Certain quotas in universities are reserved for students wishing to study further after obtaining an AMK degree.

Volume planning is undertaken on the basis of the estimated skill requirements of the economy. The current findings have been published by the Ministry of Labour in a report entitled: Qualification Needs in 2010.

Because of youth unemployment, the initial vocational training intake has been increased by 11,000 pupils. The new places for adults (1,600) will be mainly in the form of apprenticeship.

Pupil flows are presented in Figure 2.

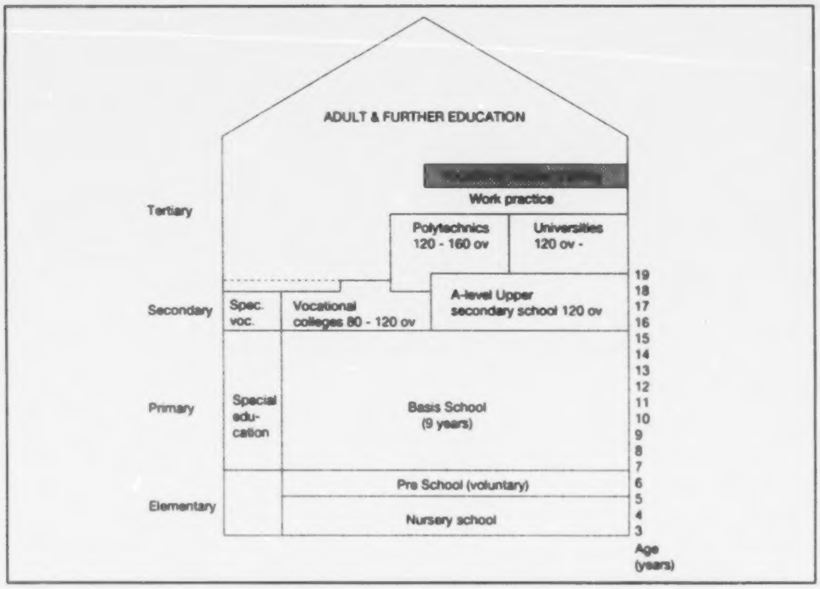

Figure 2: Pupil flows and study duration in the Finnish education system.

2.2 Curricula in vocational education

The content of vocational education at secondary level is laid down in curricula developed in two stages. OPH issues the national 'Curriculum Bases' for secondary and institute-level vocational education and for every vocational sector. In autumn 1996, 'bases' existed for 77 secondary education tracks and for 34 institute-level tracks. The purposes of the 'bases' are:

- to disseminate the objectives of education policy and the tasks and values of vocational education;
- to describe qualification demands and forms of certification;
- to meet the demands for certification in different parts of the country;
- to guarantee national and international comparability of vocational qualifications;
- to dovetail different study tracks and sectors according to the principles of lifelong learning;
- to create and promote a new learning culture and new learning habits;
- to lay the foundations for evaluating effectiveness and for quality control.

The 'bases' describe:

- the structure of the vocational studies and development of the qualification;
- the purpose of the training and its value base;
- the vocational sector and the goals of training;
- study units and the goals and scope of such units;
- developmental strategies in teaching and evaluation;
- the curriculum of a local college.

Subjects

The 'bases' specify the study units (subject matter), and their scope. The units are basic studies, general occupational studies, specialized vocational studies, and work practice. The study units are defined as mandatory, optional, or elective (Figure 3).

Directives

The 'bases' do not define the content or format of any individual college curriculum, this being regarded as a tool for the internal development of each college. Developing the local curriculum is expected to be a matter for cooperation between pupils, teachers and college administrators and also a continuing process allowing for reflective feedback. The 'bases' emphasize the transparency of local curricula, insisting that each be a medium allowing pupils to understand the national goals for the qualification concerned and the study strategies required to achieve the set standard, and also helping them monitor their progress. Transparency in the local curriculum is equally important as the curriculum informs the business community outside the college about the skills generated by the learning process taking place there.

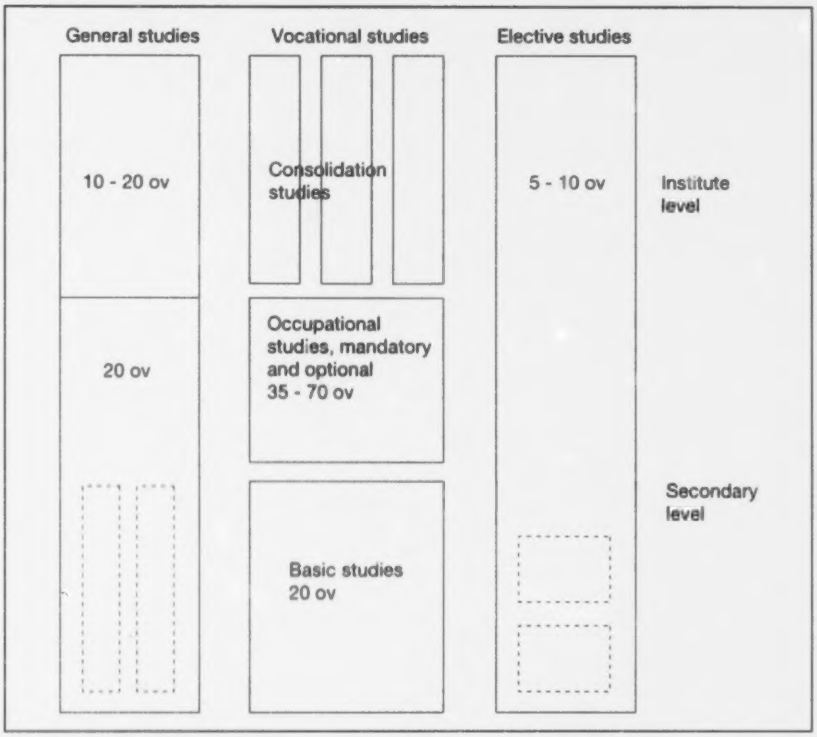

Figure 3: Content and duration of study in the 'curriculum bases'.

General studies

The 'bases' determine the general studies which are common to all vocational sectors -at institute level, for example- as follows: "A skilled worker requires not only occupational competence but also new cross-sectoral competences, e.g. in the cultural, social, ecological, communication, and information technology fields. Such abilities help the individual understand and cope with changes taking place in society and in their occupation and also help create visions for the future." The study content concerned here consists of cultural and social affairs, natural science and technology, working life and entrepreneurship, and learning methodology.

Common core, general academic subjects such as Finnish, Swedish, foreign languages, mathematics, physical education, and social and civic studies account for about 20 ovs out of a total of 80-120 ovs (i.e. 2-3 years) in vocational secondary education, i.e. 17-25%. For a definition of an "ov", see the section entitled "Courses" below.

Vocational subjects

The 'bases' together with the local college curriculum are used as yardsticks for monitoring vocational education only at vocational colleges and in secondary and institute-level education. In adult vocational education the monitoring of standards is based on the AMTU system of measuring professional competence. The corresponding documents laying down training contents are the 'Bases of AMTU', which are drawn up by OPH and for which OPH establishes special certification boards to maintain training standards.

The accelerating pace of change will call for a readiness to learn continuously, flexibility and a high level of learning capacity. Quality in vocational education is measured not only in terms of the validity of the content but also in terms of flexibility and the attitudes generated.

2.3 Key skills

The general ability to cope with change in all occupations and professions is emphasized by the Ministry (OPM) as being part of the content of vocational education. The main key skills required in all occupations are:
- systematic thinking, flexibility, and IT and computing skills;
- readiness to train and work abroad;
- communication skills;
- readiness for and tolerance of change;
- creativity;
- consistency in analytical thinking and reasoning, taking account of environmental and commercial considerations and of standards;
- forward-looking orientation;
- professional expertise.

Focusing on these key skills is a new challenge not only for pupils and trainees but also for vocational teachers.

2.4 Sectors and structure of vocational education

The structural reforms shifted Finnish vocational education away from a college-centred structure towards a level-centred and sector-centred structure. As explained above (see Figure 2), the levels are secondary (2-year and 3-year courses) and tertiary (leading to polytechnic and university degrees). The intermediate institute-level (e.g. technicians) is confusing. When the new polytechnic system was set up, many of the old institutional tracks were reformed and merged into the polytechnics, for example all engineering and advanced seafaring courses are now held at AMKs. At the same time, some of the three-year college courses are now approaching the old institute-level courses. Given this probably overly compressed structure, it may be that there will be no need or place for the old institute-level qualifications in the future setup and that this level will ultimately diappear. The decisions on the future of this level have not yet been taken.

The courses in vocational education are subsumed under eight vocational sectors which form the basis for planning operations. The eight sectors are:

1 Natural resources;
2 Technology and transportation;
3 Business and administration;
4 Tourism and catering;
5 Health and social care;
6 Cultural services (incl. music, entertainment, dance, theatre, and media);
7 Pastoral and teaching services (incl. parish and church pastoral work, nursery education, leisure pursuits and sports);
8 Security services (incl. military, prison, police, border patrol, and fire-fighting); this sector is regulated not by the Ministry of Education but by other ministries).

Despite the existence of this new sectoral structure, the statistics available are still based on the old college structure and thus provide information only on the old-type colleges and their pupils and teachers.

2.5 Courses

Pupils wishing to embark on an institute-level course can do so directly after basic schooling or after secondary education in the same vocational sector or after upper secondary general education and the baccalaureate. Pupils seeking admission to an AMK can apply after secondary vocational college, an institute-level course or upper secondary education and the baccalaureate. Pupils can attend the secondary level courses at an AMK, both vocational and general, and the credits are counted in so-called "ovs" (study units), though differently from one sector to another.

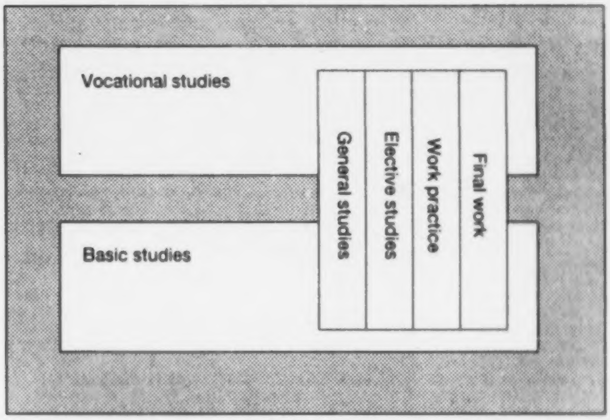

Figure 4: Structure of courses as defined in the "Curriculum Bases".

The study unit is the opintoviikko -or "ov"- (a study week or credit). One ov normally entails one week of full-time study. 40 ovs count as one study year. The shortest secondary education course has 80 ovs. Figures 2 and 3 show the approximate durations of study for different college levels and courses. Figure 4 shows the different types of study unit and the study structure.

Work practice is included in the vocational studies, varying in amount between 2 and 8 ovs. Institute-level courses include up to 20 ovs of work practice.

At the end of the course pupils are required to submit a final assignment demonstrating the competence they have acquired. Preparing the final assignment accounts for between 2 and 5 ovs.

2.6 Pupils in vocational colleges

Vocational colleges source their pupil intake through a centralized guidance, counselling and applications system run by county councils. The councils and colleges negotiate the size of the pupil intake on the basis of national standards.

The currently difficult employment situation with high unemployment has resulted in an increase in the number of adults engaged in vocational education and training. Vocational colleges also admit adults as trainees via the same applications system.

Tables 1 and 2 present figures and statistics which include the music and art colleges and also Swedish-speaking pupils except those in the Åland region.

The vast majority of pupils at vocational colleges study on a full-time basis. The number of apprentices undergoing theory instruction at such colleges is small and mainly concerns apprentices in the craft sector. Although this type of vocational training is being encouraged at the moment, there is a shortage of high-quality apprenticeship places and trainers.

Index	Occupation	Isced 3	Isced 5	Isced 6 univ	Isced 6 poly	Sum
10	Farming	1,542	208	0	114	1,864
	Orcharding	744	20	0	56	820
	Fishery	148	16	0	0	164
	Forestry	856	16	110	106	1,088
	Other nature-related occupations	16	12	0	0	28
	sum	3,306	272	110	276	3,964
20	Textile & clothing	1,328	133	0	51	1,512
	Printing	396	0	0	50	446
	Metal industry	3,205	603	242	585	4,635
	Heat. vent & plumb.	905	85	30	80	1,100
	Car & transp. tech.	3,200	273	110	50	3,633
	Electricity	3,538	860	635	961	5,994
	Building & constr.	1,952	584	157	436	3,129
	Land surveying	181	0	30	71	282
	Joinery & wood tech.	1,164	124	0	62	1,350
	Painting	434	0	0	30	464
	Paper & chemical	822	443	0	200	1,465
	Food industry	708	37	0	55	800
	Seafaring	94	38	0	32	164
	Other tech. & transp.	499	0	100	496	1,095
	sum	18,426	3,180	1,304	3,159	26,069
30	Business & administ.	3,852	7,710	0	2,768	14,330
	sum	3,852	7,710	0	2,768	14,330
40	Hotel & catering	4,858	614	0	198	5,670
	Home econom. & cleaning	1,874	454	0	76	2,404
	sum	6,732	1,068	0	274	8,074
50	Social & health care	6,299	4,586	0	1,368	12,253
	Beauty therapy	1,038	14	0	0	1,052
	sum	7,337	4,600	0	1,368	13,305
60	Arts & crafts	1,329	216	0	354	1,899
	Media & illustr. arts	82	220	0	0	302
	Theatre & dance	12	64	0	0	76
	Music	104	334	0	0	438
	sum	1,527	834	0	354	2,715
70	Leisure time activ.	122	406	0	0	528
	Physical education	122	152	0	0	274
	sum	244	558	0	0	802
		41,424	18,222	1,414	8,199	69,259

Table 1: Intake of 16+ pupils to initial vocational education in 1995.

2.7 Special vocational education

Special education is for persons with a physical, mental or social disability, including specific learning disabilities such as dyslexia or a speech defect. It is provided in all primary, secondary and upper secondary schools and colleges. Pupils with special needs are given special teaching, tutoring

or guidance while attending the regular courses. As all special education provision is statistically recorded, the number of pupils in receipt of it seems high: about 15.2% of pupils in Basic Schooling, of whom 11.2% suffer from dyslexia or speech problems. The structure of special education is described in Figure 5.

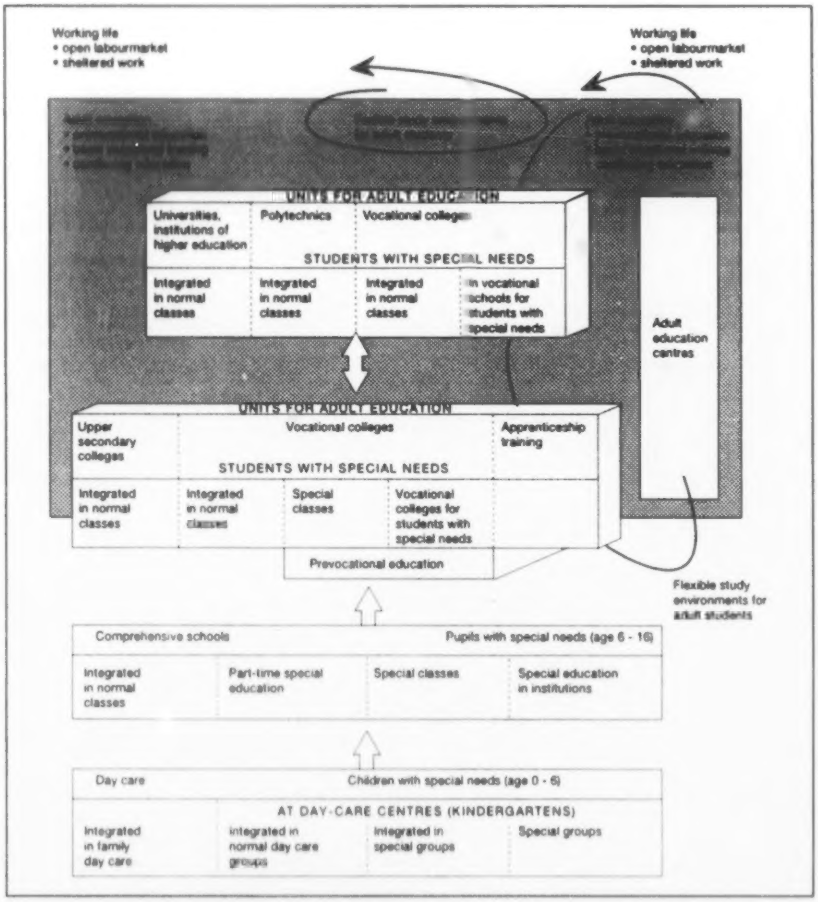
Working life
• open labourmarket
• sheltered work
Working life
• open labourmarket
• sheltered work
UNITS FOR ADULT EDUCATION
Universities, institutions of higher education
Polytechnics
Vocational colleges
STUDENTS WITH SPECIAL NEEDS
Integrated in normal classes
Integrated in normal classes
Integrated in normal classes
In vocational schools for students with special needs
Adult education centres
UNITS FOR ADULT EDUCATION
Upper secondary colleges
Vocational colleges
Apprenticeship training
STUDENTS WITH SPECIAL NEEDS
Integrated in normal classes
Integrated in normal classes
Special classes
Vocational colleges for students with special needs
Prevocational education
Flexible study environments for adult students
Comprehensive schools
Pupils with special needs (age 6 - 16)
Integrated in normal classes
Part-time special education
Special classes
Special education in institutions
Day care
Children with special needs (age 0 - 6)
AT DAY-CARE CENTRES (KINDERGARTENS)
Integrated in family day care
Integrated in normal day care groups
Integrated in special groups
Special groups

Figure 5: Children/adolescents/adults with special needs within the Finnish education system (Kaikkonen, L. 1995).

At vocational education level, pupils with learning disabilities may study in special colleges or in special classes at ordinary vocational colleges, or they may be integrated in normal classes. They have a limited syllabus and a special curriculum. The number of special colleges in Finland was 15 in 1995. These provided for a total of 2,505 pupils.

2.8 Youth school, a new pilot project

The rigid division into academic and vocational tracks in upper secondary education has been overcome in an on-going pilot project known as Nuorisokoulu, or youth school, where pupils can combine vocational courses with their upper secondary general education courses. Pupils can choose between taking only a few courses or preparing for a full vocational qualification while studying for the baccalaureate examination. This study opportunity is possible only if there is a high degree of local networking between upper secondary schools and vocational colleges and their respective teaching staffs. The new combination is supposed to encourage pupils to apply to the new polytechnics and also to be a new way of avoiding the bias of latent selection by theoretical or verbal ability among pupils wanting to proceed to higher education.

2.9 Adult vocational education

Adult education has been designated one of the special focus areas in vocational education for the end of the 1990s. Although secondary education colleges are also open to adults, a network of colleges named Ammatillinen aikuiskoulutuskeskus, AKK, or adult vocational education centres, specializes in vocational education for adults on the basis of modular training programmes. AKK trainees may come straight from working life, or they may be unemployed persons for whom the employment office has ordered and funded the training.

The 1994 Vocational Qualifications Act set up a competence-based examination system for vocational qualifications - AMTUs - which lays down guidelines for course planning. The AKKs arrange the competence-based examination and certification under the auspices of a body bringing together representatives of the two sides of industry. The system is very similar to the British NVQ system. The Finnish AMTUs correspond to NVQ levels 2 - 3.

The 'bases of AMTU' are drawn up by the national AMTU boards, which are nominated by OPH and work under its supervision. The 'bases' are the mechanism via which the boards control AKK curricula and courses. All certification in apprenticeship and adult education is regulated in this way. At the end of 1996 there were over 220 AMTUs for different occupations at three levels of expertise. The three certification levels are ammatillinen perustutkinto (basic vocational qualification), ammattitutkinto (vocational qualification) and mestarin tutkinto (master qualification). All AMTUs are regarded as skilled worker level qualifications. In effect, because the AMTU system does not apply to higher education qualifications, the latter are generated and certified only by polytechnics or universities.

The number of persons in adult vocational education is shown in Table 2.

Index	Occupation	Isced 3	Isced 5	Isced 6 univ	Isced 6 poly	Sum
10	Farming	298	114	0	40	452
	Orcharding	214	44	0	24	282
	Fishery	2	16	0	0	28
	Forestry	116	52	50	12	230
	Other nature-related occupations	52	0	0	0	52
	sum	682	226	50	76	1,034
20	Textile & clothing	16	26	0	8	50
	Printing	32	15	0	30	77
	Metal industry	197	196	151	185	729
	Heat. vent & plumb.	123	20	0	0	143
	Car & transp. tech.	57	30	25	0	112
	Electricity	612	253	245	229	1,339
	Building & constr.	244	61	30	130	465
	Land surveying	26	0	30	15	71
	Joinery & wood tech.	110	30	0	12	152
	Painting	27	0	0	15	42
	Paper & chemical	64	0	0	15	79
	Food industry	126	15	0	0	141
	Seafaring	14	55	0	0	69
	Other tech. & transp.	168	0	0	145	313
	sum	1,816	701	481	784	3,782
30	Business & administ.	315	2,220	0	728	3,263
	sum	315	2,220	0	728	3,263
40	Hotel & catering	1,035	178	0	60	1,273
	Home econom. & cleaning	581	184	0	32	797
	sum	1,616	362	0	92	2,070
50	Social & health care	2,479	2,222	0	395	5,096
	Beauty therapy	96	14	0	0	110
	sum	2,575	2,236	0	395	5,206
60	Arts & crafts	60	225	0	76	361
	Media & illustr. arts	0	56	0	0	56
	Theatre & dance	0	26	0	0	26
	Music					
	sum	60	307	0	76	443
70	Leisure time activ.	0	74	0	0	74
	Physical education	16	20	0	0	36
	sum	16	94	0	0	219
90	Entrepreneurship	219	0	0	0	219
	sum	219	0	0	0	219
		7,299	6,146	531	2,151	16,127

Table 2: Intake in adult vocational education and training in 1995.

3 Teachers and trainers

Vocational teachers are employed in municipal colleges, polytechnics, adult vocational education centres, special vocational education colleges, civic institutes and a few private-sector corporate training institutes. Civic institutes offer non-occupational, recreational courses in manual arts and crafts, mostly in the evenings. Vocational teachers may be employed as lecturers, senior lecturers (in polytechnics), special education teachers, school counsellors, department heads, vice-principals and principals.

Numbers Because vocational education in Finland is very school-centred, teachers work with classes on a full-time basis. A teaching career is usually for life, and excursions into the extra-school working environment are rare. Colleges have two main categories of teacher: vocational subject teachers (VST) and academic subject teachers (AST). A breakdown of teacher numbers by category is given in Table 3.

Type of college	N	VST	AST	sum.
Musical colleges	11	466	47	51
Colleges of Physical education	10	59	11	7
Civic Institutes	36	31	229	26
Farming colleges	38	463	137	60
Forestry colleges	16	472	51	52
Technical colleges	32	719	436	115
Vocational ed. colleges	104	3,540	1,045	458
Voc. adult colleges	14	244	81	30
Special ed. voc. colleges	32	1,429	92	152
Arts & crafts colleges	37	483	60	54
Fine arts and media colleges	8	82	-	8
Business colleges	62	1,265	875	214
Seafaring colleges	4	54	10	6
Health care colleges	45	1,856	447	230
Social care colleges	23	734	191	93
Home economics colleges	30	467	104	57
Hotel & catering colleges	15	221	78	29
Miscellaneous colleges	2	35	12	4
	529	12,620	3,706	1,651

Table 3: College types and number (N); number of academic subject teachers (AST) and vocational subject teachers (VST) by type of college, 1995.
Source: OAJ member database.
N.B. The 1995-1997 college reform has since changed vocational education and college structures.

Vocational subjects consist of a combination of theory instruction and practical training. Occupation-related training takes place in college workshops under the supervision and guidance of the teacher who is also responsible for the theory instruction. College workplaces -e.g. vehicle repair shops, construction sites, small factories, hotels, restaurants, beauty salons- are well equipped and are run like real enterprises by the teachers who are responsible for them. Vocational teachers also tutor their students during their practice period in enterprises. The time spent on work practice in enterprises counts towards the ov requirement for occupational studies.

3.1 Number of teaching staff

Table 3 is already out of date because the new polytechnics (AMKs) have taken over some programmes -and their teachers- from the old vocational colleges. Furthermore, the reorganization of college structures meant that most of the small colleges were merged into larger local colleges and are now run by the corresponding single board. Additional staff changes resulted from the fact that some of the previous basic vocational tracks were merged and reformed to produce new vocational sectors, e.g. social care and health care, forestry and farming, home economics and catering and tourism.

OPH has estimated the number of vocational teachers (autumn 1995) to be about 25,000, of whom 20,800 are full-time teachers and 3,000 to 4,000 part-time teachers. The new definitions of AST and VST, together with a redefinition of part-time lectureships, have made for difficulty in compiling accurate statistics. The differences between the statistics presented by the teacher union OAJ and those presented by OPH can perhaps be explained by an overestimation on the part of OPH and the fact that OAJ does not have all teachers as members. Unemployment among teachers is a further factor affecting the statistics. Vocational teachers who become unemployed because of a shortage of teaching vacancies have serious difficulty, because of the unemployment rate in other fields, in finding opportunities to apply their occupational expertise elsewhere and thereby to enrich their work experience out of school. The overall unemployment rate is approximately 17%, and among vocational teachers it is under 10%.

The number of VST is expected to remain stable at least until the turn of the century. At the same time the required teaching skills are changing: the focus is moving towards continuing and adult education, specialization within the teaching profession, and working in open learning environments. Natural retirement will decline over the next five years because the early retirement opportunities of the two reform years have probably already altered the shape of the top of the teachers' age pyramid.

The number of pupils in 16+ colleges is declining because younger age cohorts are smaller. Additionally, the 10% surplus of study places in vocational education which Finland had during the 1980s is being eroded by the current economic pressures. The new, larger united colleges and the many sectoral colleges operating under a shared administration will undoubtedly rationalize by expanding class sizes up to an average of 16 or more pupils per class. This will of course also affect the number of teaching posts available and the demand for new teachers. At the same time, the high youth unemployment rate (over 20%) is causing many youngsters to apply for a place at vocational college and the classes there are full.

3.2 Teachers of music

Different sources list the number of music teachers at between 500 and 3,000, the problem apparently being one of definition. Music teachers work in colleges, conservatories of music and also in the private sector. Training for aspiring music teachers is provided by eleven colleges and conservatories and extends over four to five years. The intake is between 20 and 50 annually.

3.3 Trainers

The Finnish education system does not officially recognize the trainer function. Colleges and adult education centres have only teaching posts, and the teacher is responsible for all the training, including pupil supervision during periods of work practice in enterprises. As far as apprenticeship is concerned, apprentices work in enterprises under the guidance of an older, experienced worker or foreman. Their theory instruction takes place in colleges or AKKs and is provided by certified teachers.

3.4 Teacher union

The Education Trade Union in Finland (OAJ) offers membership to all teachers except university teachers. OAJ is a member of AKAVA, the confederation of associations of professional academic employees. As the largest member union of AKAVA, OAJ holds some authority as a consultation partner to the government on educational matters. The Ministry and OPH maintain contact with the OAJ's departments and representatives. No innovation, no new legislation or programme would be introduced without OAJ involvement from the outset or at least a hearing of OAJ opinion. OAJ representatives serve as experts on the OPH committees which develop curricula and the 'AMTU bases'. The departmental structure of OAJ is designed to reflect the structure of the Finnish education system.

All colleges have a board or self-governing body. One board member nominated by the local sub-association of OAJ acts as the representative of the teaching staff. Vocational teachers are very committed and effective in promoting union issues nationwide.

4 Regulations governing teachers and trainers

4.1 Teaching qualifications and certification

The qualifications required of a vocational teacher are threefold:
1 vocational education certificate;
2 one to three years of work experience;
3 a teacher training certificate attesting to 35 ovs of training.

Qualifications are specific to education level -upper secondary or tertiary- and subject matter - vocational or academic. Teachers have municipal civil servant status. To appoint a teacher the college board establishes a teaching post defining the position and area of expertise (subject coverage) and appoints the most competent applicant. A teacher without the full qualifications cannot retain a permanent full-time teaching post, and a college which retains unqualified teachers risks losing its state funding. An unqualified applicant cannot be appointed if a qualified applicant also applied for the post, and Finnish legislation prohibits discrimination in terms of sex, race, or ethnic origin. Unqualified teachers are estimated to account for less than 10% of all college teachers.

Differentiations

Since their restructuring, colleges seem to be developing a more differentiated teacher qualification profile in terms of subject matter, pedagogy, teaching format and school administration, and are moving away from the traditionally hierarchically 'flat' type of organization. Differentiated structures are increasingly being implemented involving different staff qualifications, positions, tasks, and remuneration. Teaching in today's larger college units calls for greater flexibility and breadth in teaching competence.

Part-time and temporary teachers ("hour teachers" in Finnish) are officially required to hold the full teaching qualification but many lack the pedagogy certificate.

Some years ago a Ministry statement gave comparable status to all teaching certificates attesting to 35 ovs of training (i.e. at least one year of higher education study). All these certificates now entitle the holder to teach in any position. The only institutions currently not requiring the teaching certificate are the universities.

All teaching certificates entail a common core of general pedagogy study which is comparable to the 10 ovs of pedagogy study in university degree courses. This common core pedagogy course can be credited to subsequent study for a university degree in pedagogy.

The teaching certificate can be obtained only from pedagogy faculties at universities or from the five vocational teacher training colleges (AOKKs) affiliated to the AMKs. Only AOKKs can certify a person with a vocational background; university faculties can certify teachers who have obtained a university degree.

4.2 Teachers' duties

Each lesson comprises 60 minutes, including a 15-minute interval for relaxation. Two lessons can be combined to create a 90-minute instruction unit. The teaching load differs from one college type to another. The highest teaching load is found at AKKs: 33 lesson per week. At vocational colleges it is between 16 and 24 lessons per week. In some sectors (e.g. social and health care, forestry, home economics), the teaching contract provides for so-called "flexible full-time" teaching involving 26 lessons per week. A teacher can be obliged to give up to 12 additional lessons; these attract additional salary. Extra duties, e.g. serving as department head, are counted either as contact hours or as extra lessons. The teaching workload also varies to some extent depending on subject matter, college type and education level. The school year comprises 190 days of schooling. Usually, no schooling is held in summer (mid-June to mid-August).

If the workload in a certain vocational sector is not sufficient to warrant a full-time teaching post or if a competent teacher cannot be found, the college director can hire a part-time "hour teacher" (up to 16 lessons per week) or a full-time "hour teacher" (over 16 lessons per week). Such teachers have practically the same salary as tenured teachers but their contracts are for no longer than one year. Contracts can be renewed annually.

Teachers' duties consist of class instruction, instruction planning, vocational and other counselling, assessment and evaluation. One and the same teacher is responsible for theory instruction, workshop training, arranging practice periods in industry, and assessing learning progress.

4.3 Salaries

A teacher's salary consists of a basic salary, a bonus for extra lessons, and salary increments payable for the special expertise which accrues during a 20-year term of service. Length of service increments are payable after 3, 5, 8, 11, 15 and 18 years, ranging from 2% to 5% and ultimately totalling 25% of the salary. Academic subject teachers and vocational subject teachers have different basic salaries. Extra lessons are remunerated at almost the same rate as regular lessons.

The teacher union, AKAVA/OAJ, negotiates the national contract for teaching personnel on the basis of qualifications and college type. The contract specifies teacher qualifications, conditions of employment (workload, work time, in-service training, extra duties, etc.) and also salary rates. There is currently pressure to reform the basis of the agreement by adopting a "full-time" approach which covers teaching, preparation and extra-classroom duties rather than the current "number of lessons" approach.

Salary levels are higher in polytechnics, reflecting the level of the lecturers' or senior lecturers' competence. The first union-negotiated contract on the salaries of staff employed at the new AMKs will be in use by summer 1997. Table 4 shows a breakdown of teachers' gross monthly salaries. A progressive tax system with deductions ranging from 40% to 60% is applied to gross salaries.

	FIM	ECU
Basic school		
Teacher	8,600 - 12,100	1,500 - 2,100
Lecturer	9,600 - 14,000	1,700 - 2,500
Upper secondary colleges		
Lecturer	9,900 - 14,900	1,700 - 2,600
Vocational lecturers		
Vocational colleges		
VST	8,600 - 14,900	1,500 - 2,600
AST	8,600 - 14,400	1,500 - 2,500
Business colleges	9,300 - 15,300	1,600 - 2,700
Social & health colleges	12,600 - 15,900	2,200 - 2,800
Technical lecturer	10,300 - 15,900	1,800 - 2,800
senior lecturer	12,200 - 17,100	2,100 - 3,000
Adult centres	13,100 - 16,500	2,300 - 2,900
University		
Lecturer	10,800 - 16,700	1,900 - 2,900

Table 4: Teacher salaries in Finland, 1995. Source: OAJ.

4.4 Retirement

The regular retirement age is 65. The opportunity to take early retirement introduced by the system reforms created job vacancies for young teachers who have in turn helped speed up the reform process. A teacher's pension is equal to 60% of his/her former salary after 30 years of service.

4.5 Academic subject teachers

Academic subject teachers usually hold a university qualification in teaching and are expected to undergo a course in vocational education either during their teacher training or afterwards as an in-service measure. Academic subjects can also be taught by vocational teachers provided the teacher has the required level of competence in the subject concerned. The pedagogy element is certified either in the teacher's university degree or as a separate unit examined on an in-service training basis. An AST has the same competence and holds the same certificate as a teacher in upper secondary education.

4.6 Vocational subject teachers

A vocational teacher should hold a full AMK or university degree in a vocational subject or, if no such qualification exists, the highest vocational qualification available. A vocational teacher also needs work experience and the teaching certificate. A minimum of 16 years is required to become fully qualified: nine years of basic education, five years for a degree, two years of work experience and one year for the teacher training certificate. The majority of teachers have also had three years of upper secondary education. Very few teachers begin their career before the age of 25, and many teachers have more than ten years of extra-school work experience. The polytechnics have more stringent demands in terms of formal vocational qualifications: a master's degree for lecturers and a licentiate or doctoral degree for senior lecturers. As a rule, teachers at all the polytechnics, business colleges, and health and social care colleges hold a university degree in a relevant subject.

4.7 Special needs teachers and school counsellors

Counsellors and special needs teachers are required to have a more extensive teacher training of at least 20 ovs. Teachers without this extra certificate do not qualify for a special needs teacher's salary, i.e. a regular teacher who teaches special groups with learning disabilities qualifies only for the regular salary. If the teaching post held is designated as a counsellor or special needs post, the incumbent needs to hold the more advanced certificate from a university or vocational teacher training college.

4.8 Teachers in adult education

Teachers at adult vocational education centres, AKKs, have to meet the same qualification requirements as those at vocational colleges. The number of teachers in this category is shown in Table 3. Teachers who have chosen to work with adults do not usually switch to teaching youngsters and vice versa. Because adult education is often temporary by nature, AKKs make greater use than colleges of part-time teaching staff.

The work of AKK teachers involves more educational planning and design because AKKs have more short courses and modular programmes. AKK teachers teach on AMTU courses and are entitled to certificate vocational competence.

4.9 Trainers

No official information is available on trainers. The term "trainer" has been increasingly used in recent years in connection with informal courses and further education, especially on the private-sector education and training market for industry. The trainers who supervise pupils during their practice periods in enterprises are experienced foremen and skilled workers but hold no formal pedagogic qualification. In apprenticeship likewise, the only demands placed on trainers concern their occupational competence.

4.10 Foreign certificates

Finland recognizes higher education and teaching certificates issued in other countries after a check carried out by OPM and provided the vocational competence standard and certificate are comparable with those associated with the Finnish higher education degree in a vocational subject. The teaching certificate (which may be part of a vocational degree certificate) needs to attest to 35 ovs of study. A teacher from abroad is required to have full command of the language of instruction. Teachers in a Swedish-language or bilingual (Swedish and Finnish) college must have undergone teacher training in the language in which he/she teaches or hold a special language proficiency certificate.

5 Training paths leading to qualification as a teacher or trainer

5.1 Vocational teacher training colleges

Vocational teacher training is now regulated by a new Act (1.8.96). The training is provided in five vocational teacher training colleges, Ammatillinen opettajakorkeakoulu, AOKK, which are affiliated to five polytechnics. The transformation from state-run, state-owned colleges to becoming part of the new AMKs is currently taking place. When the new legislation was under discussion, many arguments were advanced in favour of affiliating AOKKs to universities rather than polytechnics, it being suggested that this would keep them in closer contact with education science study, research, and all the other forms of teacher training in Finland. It was also pointed out that universities are responsible for post-graduate continuing education and that vocational teacher training is based on the same higher education degrees. With no contact with universities, vocational teachers and aspirants wanting to continue studying for an academic degree in pedagogy now have to apply to a university for a place. Some vocational teacher training, however, has been affiliated with universities for years, e.g. that for Swedish-speaking teachers and teachers of health care.

The main argument militating for affiliation with the polytechnics was the closer contact with extra-school working life, backed up by the hope that the positive image and work of AOKKs would help the new polytechnics to develop. The five teacher training colleges are located in Jyväskylä, Hämeenlinna, Helsinki, Tampere, and Oulu.

The OPM fixes the annual trainee intake for each of the AOKKs and also a "price" for a produced certificate. Each college is allocated a budget based on the number of trainee teachers plus separately priced amounts for activities. Some funding is obtained by selling services and from international projects.

Formerly, Finland had some 20 vocational teacher training colleges, each of them specializing in one or two vocational sectors. This specialization is still evident insofar as the AMKs associated with the AOKKs are also heavily engaged in a specific vocational sector. The AOKKs' main thrusts are as follows: Helsinki - business and administration; Hämeenlinna - technology and transport; Jyväskylä - tourism, catering, and social care; Tampere - technology; Oulu - health care. Students are free to apply to any college for a study place.

5.2 Swedish-speaking teachers

The teacher training for Swedish-speaking teachers is provided by the faculty of pedagogy of the Swedish-language university, Åbo Akademi, located in Vaasa. By law, a teacher must have full command of the language of instruction used at his/her college. The legislation is the same for both official languages. Finland's Swedish-speaking teachers are also fully qualified to teach in Sweden.

5.3 Volume of teacher training

The teacher training provision in 1996/97 is estimated to cater for about 1,300 student teachers, of whom 18% are future academic subject teachers from universities, 12% future vocational subject teachers from universities (Swedish-speaking teachers and health care teachers), and 70% from AOKKs. Vocational teacher training colleges will have an annual intake of 800 students until the year 2000. There is an excess of 150 students for the year 1997. The largest AOKKs in 1996 were those in Jyväskylä (342 students) and Hämeenlinna (330 students).

The number of applicants for vocational teacher training is about five times greater than the intake. Applicants apply on the basis of an open procedure and new students are admitted once a year. AOKKs are free to choose their students independently on the basis of an "even demands" policy laid down in legislation. The admission criteria include the vocational qualifications held and the quality and length of past work experience. Some vocational sectors have more applicants than others, in which case admission requirements are made more rigorous. The college intakes reconcile the respective demand for teachers in the various vocational sectors. Figure 6 shows a breakdown of the teacher training intake and the size of the colleges.

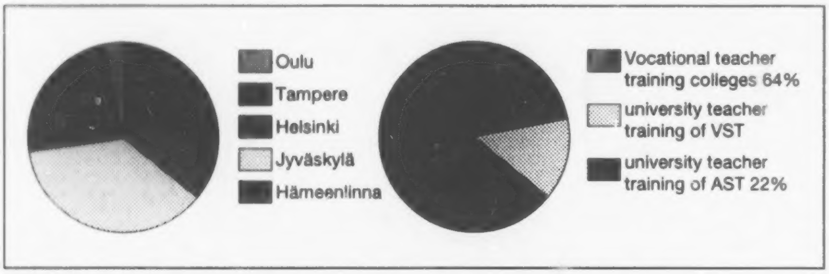

Figure 6: AOKK locations and sizes; breakdown of student teacher population by educational background.

5.4 Training paths

Training paths differ from one vocational sector to another. Teachers who entered their careers prior to the standardization of admission requirements may have taken any of a variety of paths depending not only on vocational sector but also on the type of the college for which they were heading. Today, the polytechnic or university degree in a vocational subject is the common starting point for all aspiring teachers. Work experience is gathered on the way towards obtaining one's vocational qualification or thereafter.

Some persons decide to apply for teacher training only after several years of work in another occupation, though most candidates have worked as part-time teachers before embarking on teacher training and tend to prefer the in-service, part-time training format to the full-time study format. The competence-based teaching examination is a new approach to certification intended to help experienced trainee teachers obtain a teaching qualification. It consists of short courses, assessed portfolio studies, and assessed performance in different teaching assignments at a vocational college. The training paths leading to qualification as a vocational teacher are shown in Figure 7.

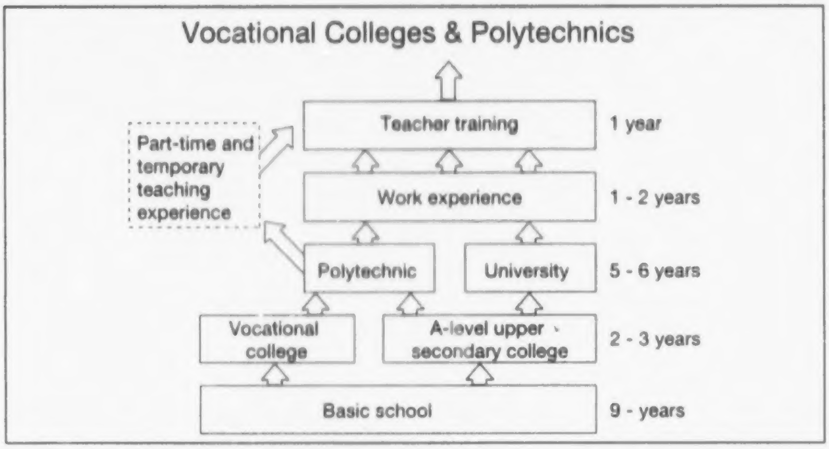

Figure 7: Training paths leading to qualification as a vocational teacher.

6 Initial training programmes for vocational teachers

Each AOKK draws up its own teacher training programme subject to approval by the OPM. The duration of study is 35 ovs (i.e. one year of full-time study). The document Common Bases for Vocational Teacher Education (1993) drawn up by OPH determines that teaching competence is composed of four elements:

1. Competence to actively develop one's own teaching in order to keep pace with changes in skill requirements, learning environments and education policy.
2. Competence to comprehend the essential nature of the learning process and willingness and ability to tutor different individual student learning processes.
3. Competence to assess the effectiveness of different learning activities and environments and ability to act to achieve collectively set goals.
4. Competence to cooperate and interact both locally and internationally.

The 1996 Vocational Teacher Training Act requires that the training programme consist of:

- basic studies in pedagogy (i.e. scientific pedagogy);
- studies in vocational education;
- teaching practice;
- other studies.

6.1 Goals

The training programmes focus on developing the trainee's teaching competence in a vocational college environment and her/his vocational sector and occupation, and on promoting self-reliance in pedagogic reasoning. The route to obtaining teaching competence is through self-initiated personal growth, reflective work practices and systematic reasoning habits.

6.2 Implementation of teacher training

The one year of study can be completed on a full-time or part-time basis or via a competence-based examination programme. It consists of short courses, periods of teaching practice, developmental projects for the trainee teacher's own vocational college, portfolio and feedback assessments, and a final thesis. The maximum study time is three to four years.

At the AOKK in Jyväskylä, for example, each student begins by drawing up his/her own personal and individual curriculum to suit the college study programme. All individual curricula include study of literature on pedagogy, several projects, cooperative assignments, reflective self-evaluation, and teaching practice with feedback seminars.

The periods of teaching practice are spent in ordinary vocational colleges either where the trainee teachers are already working or in the vicinity of the AOKK. The developmental projects are likewise geared to everyday life at those colleges.

6.3 An example

The teacher training programme at Jyväskylä AOKK extends over 35 ovs as follows:

• Basic vocational pedagogy	10 ovs
• Basic general pedagogy	10 ovs
• Teaching practice	10 ovs
• Other studies:	
- analysis of own vocational growth	2 ovs
- consolidation modules in vocational pedagogy	3 ovs

In full-time programmes the contact periods extend over 14 to 17 weeks, teaching practice over 10 weeks, and distance learning over 8 to 11 weeks. In the in-service programmes the contact periods are six weeks during the first year and two weeks during the second year.

1 Basic vocational pedagogy

By way of example, the contact periods for basic vocational pedagogy address the following:

1. The world we live in: teachers in a changing society; challenges to one's own vocational sector, skills and competence; occupations and vocational skills in the light of cultural changes in society.
2. The basics of being a teacher: understanding and concept of the human being, development, the nature of learning and knowledge; theoretical and practical foundations of one's own teaching behaviour.
3. Developing pedagogy as a promoter of vocational growth; different types of teaching and mentoring; educational technology.
4. Evaluation as a support to learning and developing teamwork.
5. The teacher as a promoter of learning and mentor of individual growth: vocational growth; the learning individual; tutoring in learning processes; the vocational growth of pupils and how to contribute to it.
6. Personal areas in vocational development: the shaping of and reasoning behind one's own teaching identity; the ego as a developer of one's own learning, work and teamwork; the mental energy resources deployed in one's teaching behaviour.

During the orientation phase the student is made aware of his/her individual vocational history, knowledge and skills, reflecting on working life skill demands and determining whether and how his/her competence needs strengthening. Skill demands are then also reviewed from a macro viewpoint: labour force needs, socialization for working life, paths towards work, careers, etc. The students study in groups composed of persons from different occupational backgrounds, so that although the study is individual, addressing the topics in groupwork allows students to learn about other occupations and working environments. During the orientation phase the students draw up their own vocational competence upgrade plan and act thereon by means of literature study or customized additional vocational tuition.

Through their own learning processes, students become aware of their own strengths and realize how to develop further their abilities to tutor and mentor pupils and how to generate attitudes which are appropriate to working life.

2 Basic general pedagogy

Most of the students already have 15 ovs of university study in pedagogy. Those who do not undergo a course in general pedagogy and are given a reading list to work through. The amount of study required depends on number of ovs outsanding. All students attend a course on 'Administration and legislation in vocational education', which examines the regulations, funding and teaching post situation as regards Finnish schools and colleges.

As stated above, every student draws up their own individual curriculum to include the amount of pedagogy literature coverage deemed to meet their needs and interests.

Students are expected to apply what they have learnt in the field of pedagogy to their study assignments and teaching practice.

3 Teaching practice

A more apt name for this would be school practice, as its thrust is to become familiar with a vocational school: a secondary-level vocational college or a polytechnic or, in very rare cases, a civic institute. Students learn about the college, its tasks, structure, staff, work routines, learning culture, and internal and external environment.

If a student is already employed at a school, that school can be chosen for the teaching practice. Non-affiliated students are placed in schools in the vicinity of Jyväskylä. A further possibility is that a student proposes a school with which he/she has previously been in contact. The AOKK draws up an agreement with the school concerned for the practice period and also remunerates the class teacher concerned for 10 hours of tutoring if the student's classroom practice extends over at least 30 lessons. Students are not remunerated for their teaching practice.

At their practice schools, the students work with the classes assigned to them and under the supervision of the class teacher. As a rule, students undergoing school practice carry out all duties normally required of qualified teachers: class teaching is the most common form of school practice but is not always necessary. During this period the students also plan a developmental programme to implement and subsequently evaluate at the end of their studies. The developmental programme may entail developing learning material for part of the pupils' curriculum or contributing a "sub-project" to a more extensive development project being implemented by the school.

Senior lecturers at AOKKs travel extensively to tutor the students' work in their practice schools. The visits are planned jointly with the student. The student prepares several hours or a day of instruction for the visit, communicates the teaching plan to the tutor in advance, together with a summary explaining how it fits into the ongoing instruction, and invites the tutor to attend the classes. The guidance takes place beforehand by phone, electronic mail, fax or letter. Tutors also run contact hours when they can be contacted by phone.

4 Evaluation

Simultaneous evaluation takes place in the form of continuous interactive communication with students. The evaluation addresses not only functional competences in teaching but also readiness to develop further. The student is made personally responsible for his/her learning and its evaluation. The student's realism in self-evaluation and personal insight is also assessed because such realism is one of the objectives in teacher training. In a final discussion the student, the tutoring senior lecturer and the practice class teacher evaluate the professional growth of the student and his/her teaching competence. There is no numerical assessment.

The evaluation is based on evidence gathered in the form of portfolio products during both the study and the practice periods. To complete his/her portfolio, every student teacher:

- draws up an individual and personal curriculum;
- keeps a personal learning diary;
- compiles, from the outset of training, documentation on teaching plans, study materials for pupils, pupils' evaluation papers concerning the teaching practice, etc.;
- compiles his/her occupational analyses and materials;
- prepares and submits a final and comprehensive project assignment (thesis);
- draws up a comprehensive self-evaluation on completion of the course.

The evaluation is intended to provide a multidimensional view and thus serve as a learning tool and at the same time to provide feedback and to motivate for further development. It encourages the students' intellectual growth and helps them plan their work on the basis of personal experience. That personal experience is regarded as a resource both during the course and after qualification.

Remarks

It is difficult to describe in greater detail how the teacher training curriculum is implemented because it is essentially a very individual curriculum, developed to respond to the individual's personal history, future plans, preferences and personality. Some students choose more class-type courses, others prefer more self-tuition. The composition of the student groups is varied from time to time to bring together different numbers of students from different occupational backgrounds. If a study element is considered unduly tough by a certain group, more time, support and tutoring is provided. And because the training is regarded as a process, the various individual study phases and modules cannot be seen or accurately described in isolation from the remainder of the training process.

7 Continuing training provision for vocational teachers

Continuing training for vocational teachers has four main objectives:

- to brush up occupation-related competence or to prepare for more advanced occupational qualifications or further specialization in the vocational field concerned;
- to brush up teaching competence in order to cope with the new challenges generated by a change in vocational training structures;
- to prepare for more advanced teaching qualifications leading to career advancement;
- to prepare for university study leading to an academic degree in education science or a vocational subject.

Teachers holding continuing education certificates are rewarded for these by a higher salary only if the teacher concerned is appointed to a higher post. Specialization via continuing education is intended primarily for teachers aspiring to posts as college principals, vice-principals, department heads, educational counsellors or special needs teachers. Holders of posts in the last two categories are entitled to a higher salary only if they hold the corresponding continuing education certificate.

Vocational teachers requiring the first type of course listed above can apply to polytechnics or universities, which both operate continuing education departments. Vocational teachers seeking a degree in vocational education can apply to the faculties of pedagogy at the universities.

The AOKKs operate continuing education centres which offer courses meeting the requirements of categories 2 and 3 above. The OPH has also begun delivering continuing vocational education courses in competition with the AOKKs.

The costs are covered by the college in which the teacher is employed. The OPH subsidizes courses which are needed for implementing developmental initiatives, e.g. the new AMTU qualification system or the on-going curriculum reform. It has been found that when colleges are at liberty to choose their continuing education consumption, they usually prefer occupation-related courses to pedagogy courses, especially now at a time of economic pressure.

7.1 Special programmes

In the past, teacher qualifications were structured hierarchically in three levels, with different qualification requirements being imposed on teachers of theory and teachers of practical work.. When the teaching posts were standardized, former “practice teachers” were offered an opportunity to upgrade their vocational competence by means of a special programme extending over several years. Under the new system, these teachers would need a higher-level vocational qualification in order to keep their jobs. The special upgrade programme expires in 1997.

With the establishment of the AMKs, some elements of vocational college operations were transferred to these new institutions. The corresponding teachers are having to upgrade their vocational competence to comply with the new regulations. The AMKs are being given support in cooperating with universities to set up special programmes for the teaching staff concerned.

OAJ negotiated an arrangement whereby teachers in all colleges are entitled to five days of continuing training per year. Colleges may arrange such continuing training themselves, or outsource it from external training providers, or second their teaching staff to outside courses. The most popular topics at present are internationalization and cooperation among colleges within the EU.

7.2 The new role of OPH

The decentralization of education has diminished the role of OPH as a source of funding, standards, instructions and inspections. OPH's new role is to unravel and simplify existing regulations, to build up educational leadership by means of effective information management, and to take care of the quality of education by reforming curricula and monitoring the AMTU system. OPH currently produces continuing training courses for teachers, develops new study materials, conducts and publishes research, coordinates international projects, etc. OPH also runs a continuing training centre in Heinola from which courses are delivered nationwide.

7.3 AK-KK

OPH has established a continuing education college in Tampere, Ammattikasvatushallinon koulutuskeskus, AK-KK, which specializes in educational administration and offers courses in educational leadership and management catering for teachers, school directors, college staff, trustees, and education planners. Formerly a state-run institution, AK-KK is now a private continuing education company.

8 Useful addresses

8.1 General

Opetushallitus, OPH
(National Board of Education)
Hakaniemenkatu 2, FIN 00530 HELSINKI
Tel.: +358-9-774775 Fax: +358-9-77477865

Opetusministeriö, OPM
(Ministry of Education)
Meritullinkatu 10, P.O.Box 293, FIN 00171, HELSINKI
Tel.: +358-9-134171

8.2 Employers

TTK, Teollisuuden ja Työnatajain Keskusliitto
(Confederation of Finnish Industry and Employers)
Education: Mr. Kari Purhonen
P.O.Box 30, Et. ranta 10, FIN 00131 HELSINKI
Tel.: +358-9-68681 Fax: +358-9-68682316

Economic Information Bureau (TaT Group)
Et. Makasiinikatu 4, FIN 00130 HELSINKI
Tel.: +358-9-131511 Fax: +358-9-605278; www.tat.fi
Director of educational services: Tuomo Lahdeniemi
e-mail: tuomo.lahdeniemi@tat.ttliitot.fi

8.3 Trade unions

AKAVA ry.
(Confederation of Unions for Academic Professionals in Finland)
Rautatieläisenkatu 6, FIN 00520 HELSINKI
Tel.: +358-9-141822 Fax: +358-9-142595

SAK ry., Suomen Ammattiliittojen Keskusjärjestö
(Central Organization of Finnish Trade Unions)
Siltasaarenkatu 3 A, FIN 00530 HELSINKI
Economic Policy Unit, Mr. Jari-Pekka Jyrkänne
Tel.: +358-9-77211 Fax: +358-9-7721447

STKK, Toimihenkilökeskusjärjestö
(Finnish Confederation of Salaried Employees)
Pohjoisranta 4 A, PL 248, FIN 00170 HELSINKI
Development department, Mr. Matti Koivisto, chief economist

8.4 Teacher associations

Opetusalan ammattijärjestö, OAJ ry.
(Education Trade Union)
Rautatieläisenkatu 6, FIN 00520 HELSINKI
Tel.: +358-9-150271 Fax: +358-9-145821

OAJ vocational sector associations:

Aikuiskouluttajien liitto - AKOL
(Teachers in Adult Education)
Rautatieläisenkatu 6, FIN 00520 HELSINKI
Tel.: +358-9-150271 Fax: +358-9-145821

Ammattioppilaitosopettajat - AOO
(Teachers in Vocational Education)
Rautatieläisenkatu 6, FIN 00520 HELSINKI
Tel.: +358-9-150271 Fax: +358-9-145821

Koti- ja laitostalousalan opettajat - KOLA
(Teachers of Home Economics)
Rautatieläisenkatu 6, FIN 00520 HELSINKI
Tel.: +358-9-150271 Fax: +358-9-145821

Käsi- ja taidetellisuusalan opettajain liitto - KOL
(Teachers of Crafts and Design)
Rautatieläisenkatu 6, FIN 00520 HELSINKI
Tel.: +358-9-1482929 Fax: +358-9-1482921

Liike- ja erityisalojen opettajat - LEO
(Teachers of Business Studies and Specific Occupations)
Rautatieläisenkatu 6, FIN 00520 HELSINKI
Tel.: +358-9-150271 Fax: +358-9-145821

Luonnonvara-alojen opettajat
(Teachers of Natural Resource-Handling Occupations)
Rautatieläisenkatu 6, FIN 00520 HELSINKI
Tel.: +358-9-150271 Fax: +358-9-145821

Sosiaalialan oppilaitosten opettajat - SOO
(Teachers in Social Care Colleges)
Rautatieläisenkatu 6, FIN 00520 HELSINKI
Tel.: +358-9-150271 Fax: +358-9-145821

Suomen kauppaopettajat - SKO
(Finnish Business Teachers)
Rautatieläisenkatu 6, FIN 00520 HELSINKI
Tel.: +358-9-15021 Fax: +358-9-1481449

Suomen musiikinopettajien liitto - SMOL
(Finnish Association of Music Teachers)
Asemamiehenkatu 4, FIN 00520 HELSINKI
Tel.: +358-9-1486133 Fax: +358-9-1486167

9 Institutions and courses

The vocational teacher education colleges of Finland (AOKKS)

Hämeen ammattikorkeakoulu, ammatillinen opettajakorkeakoulou
(Vocational Teacher Education College of Häme Polytechnic)
P.O. Box 182, Korkeakoulunkatu 6
FIN 13101 HÄMEENLINNA
Tel.: +358-3-628 31 Fax: +358-3-628 3311

Jyväskylän ammattikorkeakoulu, ammatillinen opettajakorkeakoulou
(Vocational Teacher Education College of Jyväskylä Polytechnic)
Rajakatu 35, FIN 40200 JYVÄSKYLÄ
Tel.: +358-14-444 6711 Fax: +358-14-444 6700

Helsingin liiketalouden ammattikorkeakoulu, ammatillinen opettajakorkeakoulou
(School of Vocational Teacher Education of Helsinki Business Polytechnic)
Rautatieläisenkatu 5, FIN 00520 HELSINKI
Tel.: +358-9-1489 0351, +358-9-1489 0351
Fax: +358-9-14 5114

Oulun seudun ammattikorkeakoulu, ammatillinen opettajakorkeakoulou
(Vocational Teacher Education College of Oulu Polytechnic)
Professorintie 5, FIN 90220 OULU
Tel.: +358-8-312 7213 Fax: +358-8-312 7200

Tampereen ammattikorkeakoulu, ammatillinen opettajakorkeakoulou
(Vocational Teacher Education College of Tampere Polytechnic)
P. O. Box 21, Teiskontie 33, FIN 33521 TAMPERE
Tel.: +358-3-264 7500 Fax: +358-3-264 7511

Research institutes

Koulutuksen tutkimuslaitos, Jyväskylän yliopisto.
(Institute for Educational Research, University of Jyväskylä)
P. O. Box 35, Yliopistonkatu 9, FIN 40351 JYVÄSKYLÄ
Tel.: +358-14-603 200 Fax: +358-14-603 371

Koulutussosiologian tutkimuskeskus / Turun yliopisto
(Sociology of Education Research Unit, University of Turku)
Hämeenkatu 1, FIN 20 500 TURKU
Tel.: +358-2-333 6524 Fax: +358-2-333 6524

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L 452/1996. *Laki ammatillisesta opettajankoulutuksesta* (Vocational Teacher Training Act)

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11 Acronyms and abbreviations

AKAVA ry:	Confederation of Associations of Academic Employees
AKH:	National Board for Vocational Education
AKK	Ammatillinen aikuiskoulutuskeskus: Adult Vocational Education Centre
AK-KK	Ammattikasvatushallinon koulutuskeskus: Continuing training college for education administration
AMK	Ammattikorkeakoulu: Polytechnic (vocational higher education institute for ISCED 5 vocational degrees)
AMTU	Ammattitutkinto: Finnish Vocational Qualifications (vocational certification system for adults, competence-based examinations for certifying skilled worker level qualifications corresponding to NVQ 2-3)
AOKK	Ammatillinen opettajakorkeakoulu: Vocational Teacher Training College (AMK-affiliated)
AOL	Ammattioppilaitos: Vocational College (upper secondary vocational college for 16+ pupils and with ISCED level 3-4 qualifications)
AST	Kaikille yhteisten aineiden opettaja: Academic Subject Teacher (including sports)
ISCED-levels:	An OECD indicator for comparing different educational degrees measured by length of studies, see Figure 1.
NVQ	National Vocational Qualification: The British vocational certification system
OAJ	Opetusalan ammattijärjestö: Finnish Education Trade Union (union of teacher associations)
OPH	Opetushallitus: National Board of Education (Finnish Education Central Office)

OPM	Opetusministeriö: Ministry of Education
ov, opintoviikko:	The Finnish unit of study length used for comparing educational qualifications. The translation of ‘ov’ is ‘study week’, i.e. one week of full-time study. 40 ovs correspond to one study year.
VST	Ammatinopettaja: Vocational Subject Teacher

Iceland

1 Introduction

1.1 Geography and history

Iceland was settled from Norway and by Norse settlers from the British Isles in the 9th and 10th centuries. In some periods in its history Iceland paid allegiance to the Norwegian crowns; it was part of the kingdom of Denmark until 1944. Iceland was declared an independent republic on 17 June 1944.

In the late 19th century, until when Iceland had been an almost exclusively agricultural society, fishing gradually superseded animal husbandry as the mainstay of the island's economy. The decisive element in Icelandic politics throughout most of the late 19th and early 20th century was the struggle for independence. At about the time of World War I, however, increased urbanization caused the independence struggle to be gradually replaced by class considerations as the focus of political attention. The roots of today's party system can be traced back to this time.

Iceland is the second largest island in Europe and the third largest in the Atlantic Ocean. It is located the northern Atlantic Ocean, on the border between the temperate and the Arctic zones, with its northernmost point touching the Arctic Circle. Iceland's nearest neighbour to the west, at a distance of 290 km, is Greenland; 435 km to the southeast lie the Faroe Islands.

Iceland is 500 km long from east to west and 313 km wide from north to south. Only ca. 23% of its total territory of 103,000 km^2 is arable land. About 11.5% (11,800 km^2) is covered by glaciers, and a further 3% is lakeland.

Iceland's climate is variable and unstable. In meteorological terms Iceland lies in the path of belts of low pressure accompanying westerly and Arctic winds. The Gulf Stream, the northward branches of which reach the western shores of Iceland, brings warmth to the island and makes it inhabitable. Mean temperatures are 0° to 4° C in January and 8° to 11° C in July.

Iceland today has a population of 267,000, 151,000 of whom live in the capital, Reykjavík, and its suburbs.

Population:	1982	1994
Population (thousands)	235,500	266,700
Males	116,800	133,700
Females	118,600	133,000
Live births per 1,000 persons	18.4	16.7

Icelanders' prospective life span has risen dramatically over the past century or so. Whereas life expectancy at birth was 32 years for men and 38 years for women in 1850-1860, by 1991-1992 the corresponding figures were 75.3 and 80.8 years respectively - among the highest in the world.

The language spoken in Iceland is Icelandic. Along with Norwegian and Faeroese, Icelandic belongs to the West Scandinavian branch of the North Germanic family of languages. Children in compulsory education learn a Scandinavian language (usually Danish) plus English, and those who continue to upper secondary education add at least a third foreign language, normally German or French.

1.2 Government structure

Iceland is a republic and a parliamentary democracy. The President is elected by popular ballot for a four-year term. Executive power lies with the cabinet which is formed by the political parties. The government must have the direct or indirect support of the majority of the Icelandic parliament, the Alting, which has 63 members. Parliamentary elections are held at intervals of at most four years. The Alting is legally and politically responsible for the education system and determines its basic objectives and administrative framework. Policy-making power for education as a whole rests with the Ministry of Culture and Education, though the Ministry of Agriculture regulates education in the agricultural sector.

Although local government power is exercised generally by 171 municipalities, there is no regional administration for pre-school, upper secondary or higher education. Iceland has no education inspectorate as such. Control and supervision of education activities falls within the powers of the Ministry of Culture and Education.

Iceland recognizes complete freedom of religion, though the Lutheran Church, to which 93% of the population belong, is the official state church. 1.4% of the population have no religious affiliation. The ministers of the church are civil servants and receive their salaries from the state. The head of the church is the bishop, who is the supreme authority in internal ecclesiastical matters. External matters relating to the church fall within the jurisdiction of the government represented by the Ministry of Church Affairs (which is traditionally also the Ministry of Justice).

1.3 Education

The Ministry of Culture and Education is responsible for implementing education legislation at all levels from pre-school, primary and secondary education to higher education and adult education. It regulates the sector, plans improvements to the system and bears final responsibility for all official developments and experimental work in schools.

The Ministry is also responsible for developing the Curriculum Guide for upper secondary education, including vocational training, which describes the various programmes of study available, their objectives and course content.

The education system has recently been largely decentralized with regard to responsibility and decision-making, this being in line with a general trend in Icelandic society.

1.4 Economic indicators

Iceland now has a free market economy, this marking a change from earlier times when government intervention was frequent. One of Iceland's biggest economic problems in the 1970s and 1980s was rampant inflation; the same period, however, also brought a steady increase in the gross national product (GNP). As in much of the rest of Europe the situation has now changed, and since 1990 there has been a decline in both the GNP and the GDP and the rate of inflation has been kept under control; at ca. 1% it is now among the lowest in Europe.

Public sector expenditure:	**1980**	**1994**
State and local government spending on education as % of GDP	4.33	4.89
State and local government spending on education as % of total state and local government expenditure	13.11	12.00

The fishing industry accounts for approximately one seventh of the GNP and employs one eighth of the workforce. About three quarters of all exports in recent years have been fish products.

Apart from fish, Iceland's most significant resource is its natural energy potential in the form of both hydroelectric power and geothermal power.

Although until recently the demand for jobs was usually smaller than the supply, there has always been a tendency toward seasonal unemployment, especially in the fishing industry. In 1987 unemployment reached an all-time low of less than 0.4%. Between 1987 and1989 it rose to 1.7% and has since continued to increase, reaching 4.9% in December 1995. This general increase is partly due to a massive decline in fish stocks which has cut the catch almost to half of what it was only a few years ago.

The principal employment sectors in 1991 were: agriculture (5.4% of the workforce); fishing and the fishing industry (11.4%); industry (excluding the fishing industry) (12.5%); construction (9.8%); wholesale trade, hotel and catering (14.6%); communications (6.9%); banking and insurance (8.4%); and the public service (18.5%).

2 Initial vocational education and training

2.1 General remarks on the Icelandic education system

A fundamental principle of education policy in Iceland is that education should be equally accessible to all individuals, irrespective of gender, economic status, place of residence, physical and mental health, and cultural and social background. Education legislation adopted in 1974 stipulates that everyone is entitled to free compulsory, upper secondary and higher education.

Education in Iceland has traditionally been organized within the public sector and there are very few private schools in the country: six at compulsory level, one at upper secondary level and three at higher education level.

The overall purpose of the education system is to prepare pupils for life and work in a continuously developing, democratic society. The structure and functioning of education are therefore to be guided by the principles of tolerance, Christian values and democratic cooperation.

Upper secondary education normally caters for 16-20 year-olds and is open to anyone who has completed compulsory education or has turned eighteen years of age. Importance is attached to providing adequate opportunities, and ca. 90% of all pupils proceed to upper secondary education. Efforts are made to give pupils a choice of subjects and instruction formats to meet their individual needs and preferences. The primary aims of upper secondary education are to prepare pupils for life and work in a democratic society by offering them suitable opportunities to learn and develop individually, and to prepare them for employment through specialized studies leading to vocational qualifications or more advanced study.

Legislation stipulates that persons with special needs are entitled to the same education as other pupils, and policy here today favours integration rather than segregation. Schools are expected to provide appropriate opportunities for pupils with special needs. Only the most severely handicapped attend special schools.

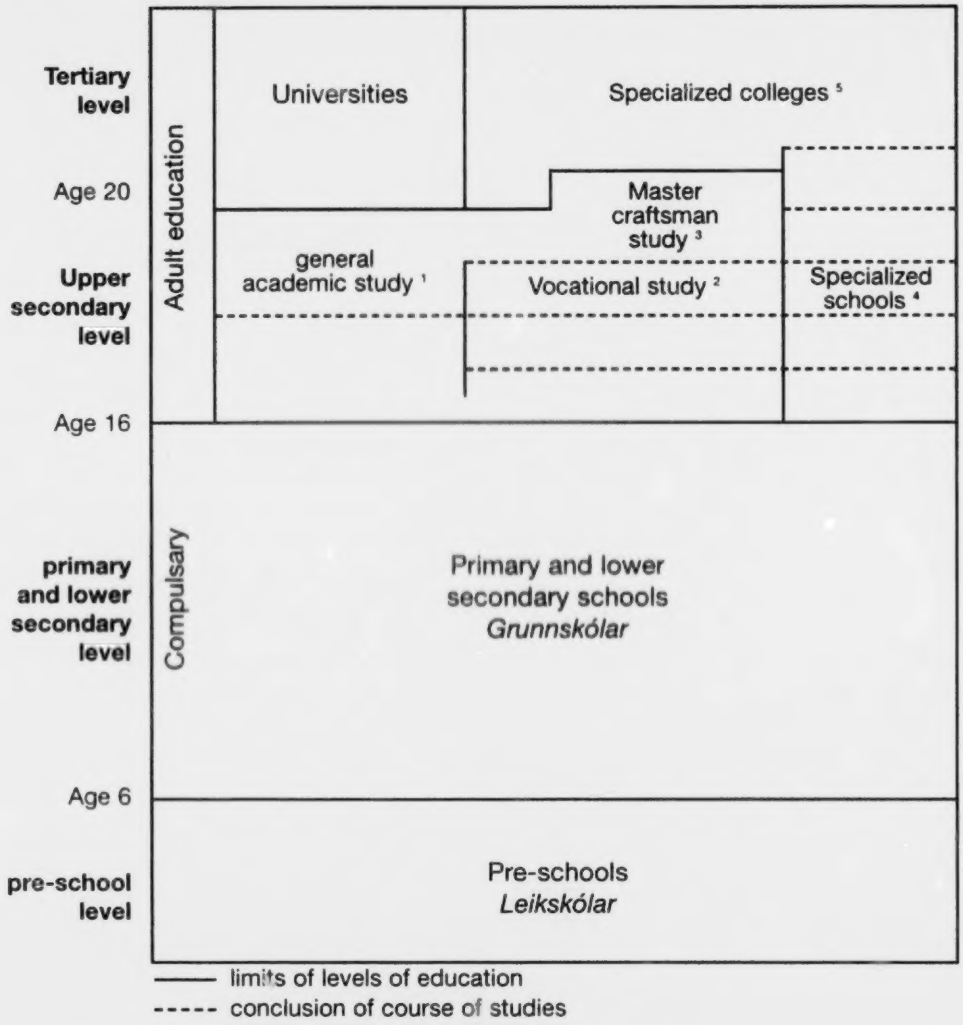
All pupils who have completed compulsory education have the right to proceed to upper secondary education. Under the provisions of a 1991 regulation, guaranteed access to upper secondary schools is based on a scheme whereby the country is divided into eight districts. Schools within each district are required to cooperate closely in managing the intake of pupils. This division into districts does not apply to fields of study which are offered at only a few locations, and pupils wanting to study specialized subjects which are not offered locally have the same rights as others to enrol on such courses wherever they are available.

2.2 The Icelandic education and training system

Pre-school education caters for children who have not yet reached the age of compulsory education. Approximately 75% of all children aged 2-6 years and some 15% of children under 2 years of age attend pre-school programmes. Most of the pre-school centres operate 11 months of the year, closing for one month during the summer. All parents pay fees for their children but a concessionary rate involving a 30-50% reduction applies to single parents.

Primary and lower secondary

Law no. 66/1995 governing primary and lower secondary education makes schooling compulsory (grunnskóli) for all children between 6 and 16 years of age (10 school years). Most schools cover the entire age span from 6 to 16 years. There are no entrance requirements and all children are accepted at the age of six years.



1 This course of study leads to the matriculation examination (stúdentspróf) in both academic secondary and comprehensive schools. Two-year courses are also offered as preparation for specialized studies for which general educational qualifications are required. Holders of the stúdentspróf qualification are entitled to proceed to tertiary education.

2 Vocational education may last between 1 and 4 years and is offered at comprehensive, vocational and specialized schools. The programme generally involves practical training at a workplace.

3 One to two years of study after obtaining the journeyman qualification.

4 Although according to existing legislation these schools fall within the upper secondary sector, the courses offered by some correspond to the tertiary level.

5 Education at tertiary level at colleges which do not have research obligations.

The main objective of compulsory education (grunnskóli, age 6 to 16 years) is to give pupils a broad educational basis preparing them for life and work in a continuously developing democratic society. The instruction is guided by the principles of tolerance, Christian ethics and democratic cooperation.

There are no tuition fees for compulsory education, and learning materials and textbooks are supplied by the government free of charge.

School size at compulsory education level varies substantially depending upon location. Whereas in urban areas the largest schools have up to 1,000 pupils, in rural areas there are many small schools, some with fewer than ten pupils. One half of all grunnskólar have fewer than 100 pupils. All grunnskólar are co-educational. The school year comprises 172-174 school days, though the number of instruction days is variable.

Statistics for school year 1994-1995:	Grunnskóli	Private schools
Number of pupils	42,218	604
Number of schools	207	6
Number of teachers (qualified teachers plus instructors lacking a full teaching qualification)	3,484	-
Full-time posts held by the above	2,811	-

In the last week of April in the 10th and final year of compulsory education, all pupils are required to sit the same written examinations in Icelandic, mathematics, English and Danish. At the end of compulsory education, all pupils receive certificates (grunnskólapróf) stating the grades they achieved in both the nationally coordinated examinations and their non-examination work.

All pupils are legally entitled to proceed to upper secondary education regardless of their primary and lower secondary education attainment record.

Upper secondary

Upper secondary education in Iceland has been shaped by two very strong traditions, firstly the educational legacy of the Latin schools, and secondly a tradition of training for skilled occupations.

Upper secondary education is governed by Law No. 80/1996 and subsequent amendments, which provides a framework by defining the main objectives of upper secondary education and the various responsibilities of the state, the municipalities, individual institutions and their staff. The law defines the purpose of upper secondary education as follows:

- to prepare pupils for life and work in a democratic society by offering them suitable opportunities to learn and develop;
- to prepare pupils for employment by means of specialized studies leading to vocational qualifications;
- to prepare pupils for more advanced study in specialized schools and at university level by providing them with the necessary academic and practical training.

Extensive reforms were introduced into upper secondary education in the 1970s. One of the objectives was to merge general and vocational education into one comprehensive system with equal status being given to each branch. The theoretical and practical courses available at upper secondary institutions are conceived within a common framework, not least so that credits obtained for courses completed at one institution can be transferred to others offering comparable courses.

Upper secondary education is not compulsory, and all upper secondary schools, like other schools in Iceland, are co-educational.

No tuition fees are payable at public upper secondary schools, though a fee is charged on enrolment. Pupils are, however, required to pay for textbooks and those attending practical courses must pay for materials.

Although each upper secondary school operates as an independent entity, schools do cooperate to some extent on the courses offered, the textbooks and other educational materials used, and the way in which the teaching process functions.

The courses available in upper secondary education vary in duration from one to ten semesters.

Upper secondary education is available in two formats: either the traditional class or grade system with all pupils in any single grade working through the same curriculum or a unit-credit system with no rigid structure, i.e. the pupil groups vary depending on individual course unit choices.

Credit system

Where the unit-credit system is used, pupils are awarded a certain number of credits for each course unit they complete and learning progress is thus measured in credits. Generally, one credit is awarded on completion of two lessons per week for one semester or for one week of block learning. The unit-credit system is now the most common format in upper secondary education. It is implemented by dividing the curriculum for each subject into a number of individual course units each entailing a fixed number of hours of instruction per week spread over one semester. At the end of each semester, the pupil chooses which course units are to be tackled during the following semester on the basis of certain rules and his/her study plans and attainment record. Each pupil thus has his/her personal timetable. The pupils on any given course unit form a group for that course unit only, and classes or grades in the traditional sense do not exist.

At schools which operate a traditional grade system, all pupils enrolled in the same grade for a particular field of study proceed through the set course at the same time and pace. The only variation here is their individual choice of elective subjects.

Differentiation including vocational

The main types of upper secondary school are:

- Academic secondary schools offering a four-year academic programme leading to the matriculation (higher education entrance) examination. Holders of the leaving certificate are entitled to apply for admission to university.
- Vocational secondary schools offering mainly vocational courses which prepare pupils for skilled occupations but also courses leading to the matriculation examination in technical subjects.
- Comprehensive secondary schools running academic courses comparable to those of academic secondary schools, vocational courses comparable to those of vocational schools and also specialized vocational training courses.
- Specialized vocational schools offering training leading to specific occupations.

Statistics for school year 1993-1994:	
Number of pupils	17,970
Number of upper secondary schools	65
Average number of pupils per school	275
Number of private schools	1
Average pupil-teacher ratio	13
Number of qualified teachers	946
Number of instructors (lacking a full teaching qualification)	412
Average number of pupils per class	20
Average number of pupils per course unit	18

The size of upper secondary schools varies: the largest have around 1,500 pupils and the smallest only 50 to 100. Although all schools operate as independent units, they do cooperate in matters relating to programmes and standards.

Approximately 90% of pupils completing primary and lower secondary education proceed directly to upper secondary education. Pupils at this level of education are usually 16-20 years of age. The average age of pupils commencing a vocational course tends to be higher as many entrants here first took a job or enrolled in a general academic programme after completing compulsory education.

In school year 1993-1994 the percentages of pupils enrolled for the various fields of study were as follows:

	Male	Female	Total	%
General studies	1,581	1,487	3,068	17.07
Languages	364	1,147	1,511	8.41
Fine arts	227	491	718	4.00
Education	360	931	1,291	7.18
Social sciences	701	1,395	2,096	11.66
Commerce	906	791	1,697	9.44
Natural sciences	1,435	1,286	2,721	15.14
Technical/vocational studies	3,057	347	3,404	18.94
Agricultural studies, restauration	485	465	950	5.30
Health care	30	484	514	2.86
Total	9,146	8,824	17,970	100

The content of each study programme comprises core subjects, which all pupils are required to take, specialized subjects, which depend on the study orientation, and optional or elective subjects.

A number of study programmes lead to the matriculation examination. All share a common subject core, including the following subjects weighted as indicated: Icelandic, 12%; foreign language, 19%; social sciences, 8%; sciences, 9%; mathematics, 9%; computer studies, 2%; physical education, 6%. The proportion of optional subjects varies by study programme from 2% to 18%. A further 17% to 33% of study time is devoted to the major subjects concerned: on a language programme, for instance, the study of foreign languages accounts for 40% of the entire programme content.

Vocational differentiation

The subjects covered by vocational programmes can be grouped as follows: general academic subjects, vocational theory subjects and practical subjects.

All pupils aiming for a recognized skilled occupation must obtain at least 25 credits (= ± 25 x 40 hours of learning) in general academic subjects, including four credits in Icelandic, eight in modern foreign languages, two in social sciences, four in mathematics, two in bookkeeping and five in elective subjects. Physical education is also compulsory. The number of specialized subjects and the extent of practical training vary from course to course.

The instruction takes the form of lectures, teacher-pupil tutorials and independent work by the pupil both within and outside school. Teachers decide which textbooks they use.

The school year lasts for nine months, from 1 September to 31 May, and is divided in most schools into an autumn and a spring term. Pupils generally attend 30 to 40 lessons per week, each lesson lasting 40 minutes.

Iceland has three universities which have research responsibilities and more than one faculty. The University of Iceland has nine faculties with research and teaching responsibilities. The University of Akureyri has four departments: health sciences, management studies, fisheries studies, and education. The University College of Education is responsible for training prospective teachers for service in the compulsory education sector.

2.3 The vocational training system

Formal training for skilled occupations in Iceland was instituted in the 19th century. It is the second oldest form of organized vocational training after ecclesiastical training.

History

Although Iceland never had a guild system as such, training for skilled occupations was originally designed to follow the traditions of the Danish trade guilds and therefore included a few years of training under the supervision of a master craftsman.

Educational legislation enacted in 1946 marked a turning point for education and training in Iceland. It lengthened compulsory education fom seven years to eight (from 7-14 years of age to 7-15 years of age), placed more emphasis on general secondary education, and introduced practical courses within the latter.

During the 1960s, demands were voiced for a wider variety of opportunities in upper secondary education. The apprenticeship system was criticized and the suggestion made that the education system alone should be responsible for providing training for skilled occupations. New legislation on training for skilled occupations was passed in 1966 and in its wake, around 1970, one-year basic training programmes were introduced at vocational schools. Subsequently, more advanced training programmes were set up for some occupations. Another avenue in vocational training had thus been opened up, i.e. a vocational training could be started at school without a formal contract with a master craftsman. The educational reforms introduced in the 1970s aimed mainly at integrating general education and vocational training by establishing upper secondary comprehensive schools and coordinating a basic programme of academic studies for all pupils.

Vocational training is now provided at comprehensive schools, vocational schools and specialized vocational schools. The courses last between one and ten semesters, and many lead to formal qualifications for certain types of employment, mainly in the recognized skilled occupations but also, inter alia, in auxiliary nursing and as skipper in the fishing industry.

The training leading to full qualification for recognized craft and industrial occupations can take 3 to 4 years. Pupils can choose one of the following tracks:

1) an apprenticeship agreement with a master craftsman;
2) one year of basic academic and practical study at a vocational or comprehensive school followed by an apprenticeship agreement with a master craftsman;
3) one year of basic academic and practical study followed by another year of specialized academic and practical study at a vocational or comprehensive school and then an apprenticeship agreement with a master craftsman.

The first option above is that chosen by most pupils. In all tracks basic studies and vocational theory are the responsibility of the schools while practical training is carried out in the workplace on the basis of a contract with a master craftsman. The workplace may be located within a company or at an upper secondary school. The contract between the apprentice and the master craftsman stipulates that the latter accepts responsibility for providing practical training for the apprentice. The master craftsman is also required to keep a record of completion of the various sections of the contract. The apprentice receives payment from the employer during the training periods as provided for by wage agreements. If he or she undergoes practical training at school the apprenticeship is shortened accordingly. All educational districts have a supervisor employed by the Ministry of Culture and Education who is responsible for checking compliance with the terms of the contract.

On completion of the course, normally after four or five years, the apprentice takes the journeyman's examination which qualifies him/her to work in the skilled occupation concerned. The journeyman's examination is organized, set and conducted by a special examination board which includes representatives from both sides of industry. It comprises both practical and theory sections.

Holders of the journeyman qualification can obtain a master qualification after gaining a certain period of work experience and undergoing further study at vocational school. A master craftsman has the right to supervise work and training in his/her field.

In addition to the courses training for recognized craft and industrial occupations, comprehensive schools also offer specialized vocational courses lasting 1 to 4 years, for example in the health care and commerce sectors.

2.4 Specialized vocational schools

These vocational schools specialize in a particular field. Entry to some is restricted to persons who have completed one or two years of general studies in upper secondary education. Special legislation governs all schools in this sector.

Seaman's colleges (styrimannaskólar) prepare youngsters for service as officers aboard fishing and merchant navy vessels.

Marine engineering colleges (vélstjórnarskólar) prepare pupils for work as engineers on fishing and merchant navy vessels and for other mechanical engineering work.

The Technical College of Iceland (Tækniskóli Íslands) offers education and training in many different fields. This school straddles upper secondary and higher education, most of its training provision being at higher education level.

Colleges of fine art (listaskólar) provide training in both the visual arts and music, backed up by courses designed to facilitate finding employment.

Agricultural colleges (bændaskólar) prepare pupils for employment in agriculture and horticulture.

Vocational training for health care and commercial occupations is offered at comprehensive upper secondary schools.

3 Teachers and trainers

Status Teachers in upper secondary education are state employees and their terms of employment (salaries and benefits) are subject to negotiations between the State Negotiating Committee and the various teachers' unions. Most upper secondary teachers belong to the Icelandic Union of Teachers (HiðÍslenska kennarafélag), though some are members of the Teachers' Union of Iceland (Kennarasamband Íslands). Teachers of academic subjects at vocational schools tend to be members of the former union, their colleagues responsible for vocational subjects tend to belong to the latter. Teachers' unions see themselves not exclusively as trade unions but also as professional associations competent to give opinions on professional matters. Unions have encouraged their members to seek continuing training, both to improve their professional standing and to raise the quality of teaching in Iceland's upper secondary schools.

The main way for teachers to further their education has been through local continuing education courses, though many have also attended courses abroad. Since 1994 Iceland's University College of Education has been offering post-graduate courses leading to a Master's degree, and in so doing has opened up a new avenue for teachers to obtain more advanced qualifications. Union agreements provide for additional remuneration for teachers who undergo continuing training, but actual career advancement opportunities are limited in upper secondary education to becoming a departmental head or possibly assistant school director or school director.

The subjects covered in vocational education can be classified as follows: general academic subjects, vocational theory subjects, and practical vocational subjects. Vocational teachers in upper secondary education teach both vocational theory and practical subjects.

All pupils in vocational education aspiring to a skilled occupation must obtain at least 25 credits in general academic subjects, i.e. four credits in Icelandic, eight in modern languages, two in social studies, four in mathematics, two in book-keeping and five in elective subjects. Physical education is also compulsory. The number of specialized subjects and credits and also the extent of practical training differs from one study field to another.

Workload

The teacher's workload is split between compulsory school attendance and other professional activities. Compulsory attendance, which is regulated by the school administration, covers teaching duties, breaks between lessons and other work on behalf of the school (interview sessions, supervision, assessment, writing of reports, staff meetings, parent-teacher meetings, consultation with other teachers, etc.). The other professional activities include preparing lessons, marking work assignments and attending in-service training. These activities are organized not by the school administration but by the individual teacher, and may be carried out at home or at school if suitable facilities are available. Most schools provide work facilities for teachers, and recent years have brought steady improvements in this respect.

Teachers in upper secondary education are expected to divide their workload over the nine-month school year as follows:

1. Teaching duties amounting to twenty-six 40-minute periods plus other duties necessarily carried out on school premises amounting to 26.7 hours per week, i.e. 934 hours over the school year.
2. Preparation carried out during the school year amounting to 19.53 hours per week, i.e. a total of 684 hours.
3. Preparation carried out when schools are not in session, amounting to 150 hours.

4. Preparation and organization at the beginning and end of the school year, carried out under the supervision of the school director, amounting to 32 hours.

Hours worked during the school year:	1,650	
Hours worked when school is not in session:	150	
Total annual workload:	1,800	hours

Materials Whereas teaching materials for elementary education are published by the National Centre for Educational Materials (Námsgagnastofnun), a state-owned and state-managed institution, those for upper secondary education are purchased on the open market. Various specialist associations are very active in having teaching materials written or translated, and many have developed materials which have had a major impact on the teaching of particular subjects. It should be mentioned that use is also made of textbooks written in foreign languages, chiefly English and the Scandinavian languages.

Appointment Teaching vacancies in upper secondary education are advertized by the school concerned, and teaching appointments are made by the school director on the recommendation of the school board. Each school has a deputy director who represents the director in the latter's absence.

School directors in upper secondary education are appointed on a permanent or terminable basis by the Minister of Culture and Education acting on the recommendation of the school board. The school director appoints a deputy director for a five-year term, an administrative director to manage the unit-credit system for up to four years, and departmental heads for up to two years - in all cases acting in consultation with the school board. The prospective appointments are reported to the Ministry of Culture and Education for confirmation.

4 Regulations governing teachers and trainers

Teachers in upper secondary education are state employees, and no distinction is made regarding the respective legal status of teachers of general and vocational subjects. Teachers' rights and duties are determined by a law on state employees and also by various other pieces of legislation which deal in one way or another with the terms of employment of public servants, e.g. legislation on maternity leave, equal opportunities for men and women, pay negotiations for state employees, and health and safety at the workplace.

4.1 Specific legislative framework for teachers in upper secondary education

Legislation exists to protect the use of the professional titles "teacher in compulsory education", "teacher in upper secondary education" and "head teacher". This legislation specifies not only the professional rights and duties of the persons concerned but also the education and training they must have undergone to bear the respective title.

A person wishing to teach in upper secondary education must meet the qualification requirements laid down in the above-mentioned legislation. Once it is determined that the conditions are met, the teacher is awarded a letter of accreditation by the Minister of Culture and Education.

Qualified teachers

In principle and as specified in the legislation, it is not admissible to appoint a teacher to a post in upper secondary education unless the appointee has a full teaching qualification. However, the law does provide for exemptions to this basic rule if no fully qualified teacher applies for the post after repeated advertisements. In such a case the school director may apply for a derogation to appoint an unqualified person. The application is scrutinized by a special committee which operates under the auspices of the Ministry of Culture and Education. Exemptions granted by the committee are valid for one year only.

In addition to staff holding a formal contract of employment, most schools also have sessional teachers. Appointments of qualified teachers in compulsory education may be permanent, terminable, or temporary.

In order to secure a permanent or terminable appointment in upper secondary education, the applicant must have obtained the consent of the Ministry of Culture and Education to bear the professional title "teacher in upper secondary education". The Minister of Culture and Education appoints teachers to permanent posts in upper secondary education after having received a letter of recommendation from the school director.

The most common form of appointment for teachers nowadays is a terminable appointment to teach at a particular school, the employer and employee each having to respect a three-month period of notice. A temporary appointment is usually a one-year contract, from 1 August to 31 July. Non-qualified and sessional teachers are always appointed on a temporary basis. A teacher who has held a temporary appointment for two consecutive years has the right to have it changed to a terminable appointment with a three-month period of notice.

4.2 Remuneration of teachers in upper secondary education

Teachers' salaries are based on agreements negotiated by their unions. Teachers in upper secondary education are state employees and their salaries and benefits are therefore subject to negotiation between the State Negotiation Committee and the various teachers' unions. Most upper secondary teachers belong to the Icelandic Union of Teachers; others are members of the Teachers' Union of Iceland.

A teacher's education and training record is taken into account for remuneration purposes on the basis of a points system:

B.A. or B.Sc. degree plus 30 credits in education and methodology	171 points
B.Ed. degree, P.E. qualification and a teaching certificate issued by the Teacher Training College of Iceland (until 1971)	148 points

A teacher who acquires additional points by undergoing additional training moves into a higher salary bracket. Those on the two lowest salary brackets need to add 15 points to move upwards, but after that each increment requires 20 additional points. At least 310 points are needed to reach the top salary bracket.

These salary brackets all fit into a system of salary scales which is structured as follows:

Scale 1 on commencement.
Scale 2 after 1 year of service or 1 year after initial qualification or at 22 years of age.
Scale 3 after 2 years of service or 2 years after initial qualification or at 24 years of age.
Scale 4 after 4 years of service or 4 years after initial qualification or at 27 years of age.
Scale 5 after 6 years of service or 6 years after initial qualification or at 30 years of age.
Scale 6 after 10 years of service or 10 years after initial qualification or at 40 years of age.
Scale 7 after 14 years of service or 14 years after initial qualification or at 50 years of age.
Scale 8 after 18 years of service or 18 years after initial qualification.

Most upper secondary teachers begin on scale 4. The difference in remuneration is 3% between each salary bracket and from 4% to 6% between each salary scale.

A 50% to 100% part-time post counts as one year of service; a 33% to 50% post counts as half a year of service.

The table below shows the gross salary range for teachers in upper secondary education.

	Salary level	Salary in Isk	Salary in ECU
Starting salary:	145-4	86,020	1,044
Final salary without further education:	147-8	106,760	1,296
Highest possible salary:	154-8	131,301	1,594

The average regular salary of upper secondary teachers in Iceland is ISK 109,500 (1,329 ECU) per month; the average overtime payment is ISK 59,650 (724 ECU).

In addition to the basic salary payable under the terms of their contract, teachers receive various special payments such as personal bonuses in June and December, bonuses for serving as a class teacher and bonuses for marking certain written assignments. Special rules apply for the remuneration of particular functions such as departmental head or tutor to trainee teachers. Upper secondary teachers have some possibilities of supplementing their income by means of overtime, but such possibilities differ considerably from one school to another.

School directors in upper secondary education are classified in salary brackets according to the number of pupils at their school. In schools with boarding facilities, the director's salary is increased by one salary bracket if there are between 15 and 69 boarders and by two salary brackets if there are 70 or more boarders.

4.3 Teacher workload in upper secondary education

Teachers in upper secondary education have an annual workload of 1,800 hours, a figure comparable to that of other professions though their work is spread over fewer weeks to fit in with the upper secondary school year: nine months from 1 September to 31 May amounting to 175 teaching and examination days. Additionally, teachers in upper secondary education are expected to work on the school premises for four days either in June or August.

On average, an upper secondary teacher is required to teach 26 lessons a week, one lesson being 40 minutes. The individual teaching requirement may differ from the average to take account of age and length of service.

The following table shows the number of contact hours worked during an upper secondary teaching career (lessons per week):

Full-time upper secondary teacher	25
Teacher with a 1st year teaching reduction	24
Teacher with reduced workload after 10 years of service	24
Teacher with reduced workload after 15 years of service	23
Teacher with reduced workload on reaching 55 years of age	22
Teacher with reduced workload on reaching 60 years of age	17

The summer holiday for upper secondary teachers who have been employed full-time for a year amounts to 24 work days. By law, upper secondary schools provide instruction for nine months of the year. The Ministry of Culture and Education determines school holiday dates annually.

Teachers of vocational subjects retire at 67 years of age on a pension which is determined by their length of service. A vocational teacher who has spent a lifetime career in teaching can expect to receive a pension equal to 70% of his/her final salary on retirement.

5 Training paths leading to qualification as a teacher or trainer

The University of Iceland, the University College of Education, and the University of Akureyri all offer teacher training courses qualifying for service in secondary and upper secondary education.

The University College of Education provides training in the theory and practice of teaching for aspiring teachers of art and craft subjects in upper secondary education. The course was set up by virtue of Law no. 29/1988, which authorized the University College of Education to provide training in didactics and education theory for prospective upper secondary teachers who have already acquired elsewhere the necessary expertise in the subject they intend to teach. The course is a two-year, part-time course (30 credits) offered either in Reykjavík or, in order to meet training needs outside the capital, in other locations selected on a rotating basis.

Students are admitted on the basis of Law no. 48/1986 on official recognition of the professional titles "teacher in elementary education", "teacher in secondary education" and "school administrator". The admissions procedure is handled by a special committee appointed by the governing body of the University College of Education. The main admission criteria are that applicants hold an academic qualification or the master craftsman qualification in the subject area in which they intend to teach and,

in the latter case, also have at least two years of relevant occupational experience. Other factors relevant to admission are previous teaching experience and any previous applications for admission.
Teachers of vocational or technical subjects at vocational schools must be qualified in the field in which they intend to teach or hold the master craftsman qualification and have at least two years of work experience in the occupation concerned.

This training course qualifies students to teach in both compulsory and upper secondary education, though it is geared mainly to teaching in the final years of compulsory education and upper secondary education.

6 Initial training programmes for teachers and trainers

Teacher training consists of theoretical instruction and teaching practice in the classroom, and the University College of Education stresses the connection between academic and practical training, theory and practice. To become professionals, student teachers are expected to acquire an understanding of didactics, psychology, philosophy, history, the social sciences, and education theory.

Objectives The objectives of this course are:

- to acquire a knowledge and understanding of teaching as a profession and to be able to apply one's own expertise in the teaching process;
- to acquire an understanding of the individual, individual development, the various aspects of personality, and of individuals within social contexts;
- to acquire a knowledge and understanding of the philosophical and historical development of child-rearing and education;
- to acquire a knowledge of and proficiency in setting educational goals, organizing instruction, and choosing subject matter, teaching methods, and educational materials, and to be able to evaluate one's own work and that of pupils.

Statistics A total of 423 students have so far graduated from this University College of Education course since it was launched in 1975. The following table shows the number of graduates, male and female, who qualified to teach in upper secondary education during the period 1976-1996.

Graduation year	No. of graduates		Total
	Female	Male	
1976	14	35	49
1982	15	85	100
1985	04	01	05
1986	21	21	42
1987	00	01	01
1988	18	09	27
1989	09	12	21
1990	15	22	37
1991	18	15	33
1992	14	23	37
1993	03	15	18
1994	00	04	04
1995	15	17	32
1996	06	11	17
	152	271	423

Study load Progress through this course of study is calculated in terms of credits, each credit corresponding to one week of full-time study (40-60 hours). The timetable may prescribe up to 20-24 hours per week, and the normal rate of progress for full-time study is 30 credits a year. The various study options available differ with regard to flexibility of choice and time limits: that for teachers of art and crafts, for example, is organized on a part-time basis and students are expected to complete only 15 credits per year.

Many part-time student teachers already have a teaching appointment at an upper secondary school and have to study for their teaching qualification outside school hours. Most field study, project work and teaching practice sessions take place in the student's own school.

Programme The course is divided into 13 more or less independent sections. Each section consists of between one and three course units, and each of these is structured and evaluated as a single entity. The description of each course unit states the unit's objectives, the working methods, the method of assessment, and how this relates to the objectives and the subject matter covered.

The course units taken during each semester are listed and described below:

First semester (8 credits)
History of education / philosophy of education (2 credits)
Thesis writing (1 credit)
Presentation techniques in teaching (3 credits)
Group dynamics in education (1 credit)
Educational and social psychology (1 credit)

Second semester (7 credits)
Didactics and objectives in education (2 credits)
Learning assessment (1 credit)
Educational psychology (2 credits)
Developmental psychology (2 credits)

Third semester (7 credits)
Sociology of education (2 credits)
Research methodology and statistics (1 credit)
General didactics and curriculum theory (2 credits)
Teaching practice I (1 credit)
The teaching profession (1 credit)

Fourth semester (8 credits)
Curriculum evaluation / school development (1.5 credits)
Elective subjects (2 credits)
Students with special educational needs (1.5 credits)
Teaching practice II (1 credit)
Research project (2 credits)

Achievements are graded in whole and half numbers on a scale from 0 to 10, 10 being the highest. A minimum of grade 5 is normally required to complete any course unit.

7 Continuing training of teachers and trainers in vocational education and training

Greater priority has been attached in recent years to giving teachers access to in-service training and other forms of continuing training, and most teacher training institutions now offer such programmes. Moreover, teachers can apply for grants from special education development budgets held by the Ministry of Culture and Education and the teachers' unions to finance pilot schemes and innovations in education.

7.1 In-service training and further education for teachers in upper secondary education

By virtue of their contract of employment, teachers in compulsory and upper secondary education are entitled to attend in-service training courses, and funds for that purpose have to be set aside in the annual state budget. Again under the terms of the contract, teachers are obliged to attend courses held at times when their presence on the school premises is not required. The legislation governing compulsory and upper secondary education concedes school directors and teachers the right to apply to the Ministry of Culture and Education for leave of absence to improve their expertise.

Until the late 1980s in-service training for upper secondary teachers was organized mainly by the teachers' unions and various associations bringing together teachers of a specific subject. In 1987, however, the In-Service Training Institute of the University of Iceland systematized the organization of in-service training at this level by establishing a Joint Committee on In-Service Training of Teachers in Upper Secondary Education composed of representatives of upper secondary teachers' unions, the Ministry of Culture and Education and the University of Iceland. Through this Joint Committee and the cooperation and consultation processes envisaged in its remit, the In-Service Training Institute today plays a leading role in providing in-service training for upper secondary teachers.

7.2 Formats for in-service training for upper secondary teachers

Responsibility for in-service training for upper secondary teachers rests with the Joint Committee referred to above.

As the training delivery process has been consolidated in recent years, five main formats have emerged: subject-specific courses, itinerant courses, training courses run jointly by the In-Service Training Institute of the University of Iceland and its counterpart at the University College of Education, field studies, and special courses for teachers in vocational education and training.

1 Subject-specific courses

Focusing on a particular subject, these courses are intended to enhance the teacher's competence in teaching that subject. Courses of this type offered recently have addressed the following topics: the current status and future of foreign language teaching; vocabulary and structure in writing; the significance of the environment in contemporary and future science teaching; selected periods in the history of mathematics; cognitive study; three-dimensional art; language and meaning; new methods in social studies teaching; research, the family and vocational orientation studies.

2 Itinerant courses

These are short courses run in individual schools during the school year by the In-Service Training Institute of the University of Iceland. The topics are selected to appeal to as many teachers as possible and recent examples have included mother-tongue teaching; elocution; the use of teaching aids; quality management; academic achievement and learning difficulties; philosophy and education; ethics and education; computers as learning aids; and computer networks.

3 Joint training courses

These courses run jointly by the In-Service Training Institute of the University of Iceland and the Department of In-Service Training of the University College of Education are intended for teachers in compulsory and upper secondary education and aim to improve coordination between these two levels of education. Recent courses offered have addressed innovations in the teaching of foreign languages, assessment, and education for immigrants.

4 Field studies

These are projects sponsored by the In-Service Training Institute of the University of Iceland for teachers teaching the same or related subjects at the same school. New methodologies or approaches are studied, then tested in the classroom and evaluated for their impact.

5 Vocational courses

These are special courses organized by specialized associations for teachers of vocational subjects. Teachers of vocational subjects are invited to take the initiative in getting such courses arranged.

In-service training courses are evaluated for their point value for remuneration purposes by the Educational Evaluation Committee of the Ministry of Education, a body which is responsible for evaluating all types of teacher education.

Evaluation

When short courses such as the above are evaluated, the following rules governing point credits - as specified in teachers' remuneration agreements - are employed:

- One pay scale point is awarded for a course entailing fifteen 60-minute instruction sessions or twenty 45-minute instruction sessions extending over a period of at least three days. Courses with fewer hours of instruction do not confer any points.
- Two pay scale points are awarded for a course entailing thirty 60-minute instruction sessions or forty 45-minute instruction sessions extending over a period of at least five days.

The personnel department of the Ministry of Education keeps a record of each teacher's point credits and notifies the payroll office of the Ministry of Finance when a salary increase is due.

8 Useful addresses

Menntamálaráðuneytið
[Ministry of Culture and Education]
Sölvhólsgötu 4
ÍS-150 Reykjavík
Tel.: (+354) 560 9500
Fax: (+354) 562 3068

Vinnuveitendasamband Íslands
[Federation of Icelandic Employers]
Garðastræti 41
ÍS-101 Reykjavík
Tel.: (+354) 511 5000
Fax: (+354) 511 5050

Samtök iðnaðarins
[Federation of Icelandic Industry]
Hallveigastíg 1
ÍS-101 Reykjavík
Tel.: (+354) 511 5555
Fax: (+354) 511 5566

Iðntæknistofnun Íslands
[Technology Institute of Iceland]
Keldnaholti. Vesturlandsvegi
ÍS-110 Reykjavík
Tel.: (+354) 587 7000
Fax: (+354) 587 7409

Menningar-og fræðslusamtök alþýðu
[Workers' Educational Association]
Grensásvegi 16a
ÍS-108 Reykjavík
Tel.: (+354) 533 1818
Fax: (+354) 533 1819

Kennarasamband Íslands
[Teachers' Union of Iceland]
Laufásvegi 81
IS-101 Reykjavík
Tel.: (+354) 562 4080
Fax: (+354) 562 3470

Hio íslenska kennarafélag
[Icelandic Union of Teachers]
Lágmúla 7
IS-108 Reykjavík
Tel.: (+354) 533 1117

9 Institutions and courses

Three post-secondary institutions offer training programmes leading to a full qualification for teaching in upper secondary education:

Háskóli Íslands
[University of Iceland]
Suðurgötu
ÍS-101 Reykjavík
Tel.: (+354) 525 4000
Fax: (+354) 552 1331

Háskólinn á Akureyri
[University of Akureyri]
Glerárgötu 36
ÍS-600 Akureyri
Tel.: (+354) 463 0900
Fax: (+354) 463 0998

Kennaraháskóli Íslands
[University College of Education]
Stakkahlíð
ÍS-105 Reykjavík
Tel.: (+354) 563 3800
Fax: (+354) 563 3833

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Lög um grunnskóla [The Basic Education Act]. nr. 66/1995.

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Iðnnám. Almennar upplýsingar. [Apprenticeship Training. General Information]. 1994. Reykjavík: Iðnskólinn í Reykjavík. [Reykjavík Technical School].

The Statistical Yearbook of Iceland 1996. Reykjavík: Hagstofa Íslands. [Statistics Iceland].

11 Abbreviations

B.A.	Bachelor of Art
B.S.	Bachelor of Science
ISK	Icelandic Krone
P.E.	Physical Education
B.Ed.	Bachelor of Education

Norway

1 Introduction

1.1 Brief background information on Norway

Norway has a population of 4.3 million and a population density of 21 persons per km², the second lowest in Europe after Iceland. Settlement patterns show that the population is still widely dispersed and that most towns are small. Oslo, the capital, has about 600,000 inhabitants. In size Norway is comparable to Britain, Poland or Italy, with an area of 200,000 km². Its coastline is 2,656 km in length, with many fjords reaching far into the land mass.

Economy

Norway today has a substantial degree of social and economic equality, a high standard of living and a largely homogeneous population. The number of immigrants is relatively low: 162,000 non-nationals were registered in 1994 -of whom half originated from a European country- giving the larger towns a more varied population in cultural and ethnic terms. A small Sami-speaking minority community lives in the far north of the country.

Significant structural changes took place on the labour market over the 21-year period from 1970 to 1991:

Employment distribution:	**1970**	**1991**
Primary sector and industry	759,000	577,000
Private services	553,000	822,000
Public services	272,000	583,000

Source: NOS Labour Force Statistics

By 1995 the sectoral breakdown of employment was as follows:

5%	agriculture, forestry, fishing and hunting
23%	industry, construction, oil, power and water supply
25%	wholesale and retail trade, hotel and restaurant industry, transport
8%	banking and finance
39%	public, social and private services, including teaching and research

This breakdown does not include the 25,000 off-shore workers employed in petroleum and natural gas exploration and production. The production and export of North Sea oil and gas have played a crucial role in economic development over the last 25 years. Norway's gross national product in 1995 was estimated to be NOK 774 billion. Total exports in the same year amounted to NOK 335 billion, including NOK 107 billion from crude oil and natural gas.

Breakdown of the workforce (16-74 years of age) by socio-economic status (annual average, in thousands)

Socio-economic status	**1981**	**1994**
Workers	660	738
unskilled	459	567
skilled	201	172
Salaried employees	980	1,265
lower level	379	343
intermediate level	480	731
higher level	120	190

The number of skilled workers in employment has declined dramatically over the past decade, and the size of the workforce working from home has shrunk from 427,000 to 147,000. By contrast, the number of pensioners, disabled and sick persons has increased from 298,000 to 501,000.

Economic growth and full employment have long been major political goals. Unemployment was very low until 1987/88, reached its peak in 1993 at 6.3% and has since fallen back to 4% (1996). Hardest hit by unemployment have been young adults: in 1994 the unemployment rate for 20-24 year-olds was the highest overall at 10%. The authorities have used the education system as a tool in the fight against unemployment by increasing the number of places in higher education (+ 50,000 between 1991 and 1994) and actively promoting equal educational opportunities for all, regardless of social and cultural background, gender, or place of residence. Everyone has an equal right to education, and public-sector school and university education is provided free of charge. Virtually all children of primary and lower secondary education age and 96% of the total upper secondary cohort attend public-sector schools.

Total expenditure on education is currently approximately NOK 59,155 million (ECU 7,294 million, 1 ECU = 8 NOK, December 1996). This figure amounts to ca. 6% of the GNP.

1.2 The Norwegian education system

The Ministry of Education, Research and Church Affairs is responsible for all levels of education, including adult education. From August 1997 on the Norwegian education system will have three main levels:

- Compulsory education, comprising the following:
  primary stage: grades 1 - 6 (age 6 - 13 years)
  lower secondary stage: grades 7 - 9 (age 13 - 16 years)
- Upper secondary education, comprising
  general and vocational education: grades 10 - 12 (age 16 - 19 years)
- College and university education.

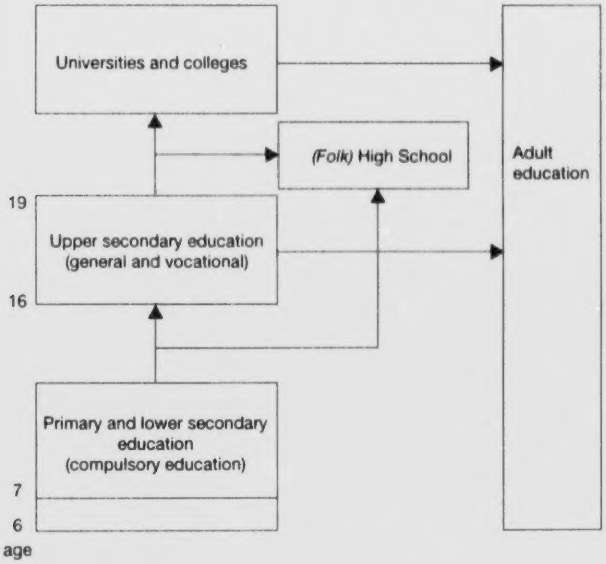
Universities and colleges
(Folk) High School
Adult education
19
Upper secondary education (general and vocational)
16
Primary and lower secondary education (compulsory education)
7
6
age

Figure 1: The Norwegian education system.

BEST COPY AVAILABLE

Children currently start school at the age of seven. Under the terms of the Reform '97 programme, however, the Storting (National Assembly) has decided to lower the school admission age to six and to extend compulsory education to ten years instead of nine. Upper secondary education, including vocational education and training, starts at 16 years of age.

Level *Issue*	*Primary and lower secondary education*	*Upper secondary education*	*Higher education*
No. of schools/ institutions	3,350	700	4 universities 6 university level colleges. From 1994, 26 colleges
No. of pupils/ students	470,000	210,000 20,000 apprentices	160,000
Expenditure in '93 pupil/student	NOK 35,000 ECU 4,300	NOK 33,000 ECU 3,100	NOK 61,000 ECU 5,600

Table 1: Educational provision, enrolment and expenditure in 1993.

Vocational education and training (VET) is defined as theory and practical instruction delivered in upper secondary education and leading to a vocational qualification. Many courses leading to occupations and professions which are often referred to as "vocations" (e.g. nursing, engineering, physiotherapy, librarianship) are held in colleges, i.e. institutes of higher education.

So-called labour market courses (AMOs) provide vocational training for persons who are unemployed or at risk of losing their job. The training is usually geared to work in industry. Some AMO courses are arranged as block training lasting from 2 to 38 weeks. Labour market courses are organized under the joint responsibility of the education authorities and the employment authorities: substantive and pedagogic responsibility rests with the Ministry of Education, Research and Church Affairs and financial responsibility with the Ministry of Local Government and Labour. The Directorate of Labour and its regional and local employment agencies determine which courses are to be run. The courses are fully state-financed, no fees are payable, and participants receive financial support. Some 60,000 persons participate in AMO courses each year.

For the purposes of this report, the following terms are used to designate the various categories of learner:

- pupils: persons in compulsory education and the general and vocational tracks of upper secondary education;
- students: persons at universities and colleges;

- apprentices and trainees: persons undergoing vocational training in enterprises.

1.3 Organization and structure of the education system

The organizational structure of the education system reflects the extensive devolution of power to the regional and local levels.

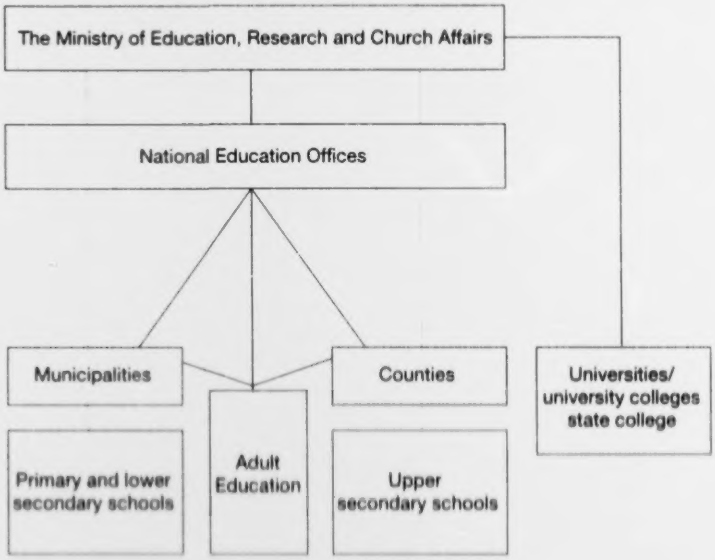
The Ministry of Education, Research and Church Affairs
National Education Offices
Municipalities
Counties
Universities/ university colleges state college
Primary and lower secondary schools
Adult Education
Upper secondary schools

Figure 2: Administration of education, organisational model.

Legislation

The Storting holds legislative and executive power in Norway and also has overall responsibility for education. It determines the principal objectives of education policy and the framework for the system's administrative structure. The Government exerts its authority in matters of education policy through the Ministry of Education, Research and Church Affairs, which is in charge of all education from primary to higher education, including teacher training and the country's research policy. Pre-school education is the responsibility of the Ministry of Child and Family Affairs.

The Ministry of Education is supported by a National Council for Teacher Training (Lærerutdanningsrådet) acting in an advisory capacity.

Delegation of competencies

In administrative terms, Norway is divided into 19 counties and 454 municipalities. Each municipality is in charge of administrating the local primary and lower secondary education provision (i.e. compulsory education), a function which it discharges through a municipal education board appointed by the municipal council. The municipality holds full responsibility for school buildings and for appointing teaching staff.

Each county is responsible for providing upper secondary education, including vocational education. County administrative powers extend to running upper secondary schools, determining pupil intakes and appointing teaching personnel. Each county has a Vocational Training Committee which attends to matters concerning vocational training (apprenticeship training).

The state is represented in each county through a National Education Office, the director of which attends to government business in all areas of education.

At higher education level, administrative responsibility has been delegated to a large extent to individual institutions. Regional colleges of higher education used to be administrated by 17 regional higher education boards. Since the dissolution of these bodies on 1 August 1994, colleges have enjoyed the same administrative autonomy as universities.

1.4 A period of reform

In 1989 an Official Report (NOU 1988:28) entitled Med Viten og Vilje was published which was to form the basis for a far-reaching reform of the Norwegian education system. The reform concerns all levels of education - compulsory, upper secondary and higher - and also teacher training. Its intentions are to improve the quality of education, to increase the range of options available and to provide for better coordination within a more integrated system.

Reform '97

Compulsory education:
From autumn 1997 on, children will start school at the age of six instead of seven, and the duration of compulsory education will thus be extended from nine to ten years.

Reform '94

Upper secondary education:
Reform '94 was implemented in August 1994 as an innovation programme for upper secondary education. Its main features and aims are as follows:

1 A core curriculum determines the overall objectives for primary, secondary and adult education and defines the fundamental principles to govern content and methodology.

2 Every young person between 16 and 19 years of age has a statutory right to three further years of education.

3 The education system is to become more flexible, offering pathways between vocational and general education, and pupils who initially choose a vocational track and have obtained a vocational qualification can have access to higher education.

4 General subjects, i.e. Norwegian, mathematics, English, natural sciences and social studies, have a more prominent place in vocational education.

5 Enterprises are entrusted with much more responsibility for secondary education insofar as the core curriculum also gives guidelines for periods of apprenticeship.

Reform '94 was drawn up on the basis of a broad cooperation process involving the social partners (employers' organizations and trade unions), regional authorities and the ministries of local government and labour, finance, and education and research.

Underlying Reform '94 was an intention to raise the number of pupils opting for a vocational education and at the same time to overcome the barriers to vertical movement within the system - and thus also to overcome the problem of pupils taking several foundation courses for lack of any opportunity to access more advanced courses. A further - and not the least important - consideration was the unsatisfactory number of apprenticeship places offered by companies.

A research-based evaluation programme is currently determining the extent to which the main objectives of Reform '94 are being met. This simultaneous evaluation programme provides information on and insight into the reform process as it proceeds, thus making it possible to respond in good time with any necessary adjustments and corrections. Contracts have been signed with various research institutions to evaluate the following aspects of the reform:

- scale and capacity;
- pupil flows and competence levels;
- organization and cooperation;
- content and structuring of educational programmes.

Reform 1993

Higher education: Network Norway

In June 1993 the Storting passed a new Higher Education Act which introduced reforms to consolidate higher education and link institutions within an integrated "Network Norway" aiming to promote inter-institutional cooperation and communication. The reform provided for a structural reorganization which reduced the number of colleges from 98 to 26, with each restructured college offering a broader range of courses and each having its own specialisms. The main reasons for this amalgamation process were to streamline college administration, to release more time for high-quality teaching and research by the staff and thereby to raise academic standards. A special programme is to evaluate the impact of the reforms.

Reform '98

Teacher training:

Different teacher training courses exist for pre-school, compulsory, and upper secondary education. Until the 1994 restructuring of colleges, all teacher training was dispensed in specialized colleges and universities. The teacher training colleges were some of the oldest educational institutions in the country, providing initial and in-service training for teachers at all levels of education, including preschool education. National teacher training programmes were last revised in 1991/92.

The current reforms of primary and secondary education, however, have made it necessary to train teachers to teach according to the curricula which are currently or soon to be offered. Consequently, a reform of teacher training is now being prepared. Development work started in November 1995, a National Official Report was published in September 1996, and the new curricula will be introduced for students commencing training in autumn 1998.

Initial teacher training currently aims to promote the personal development of the student teacher and provide a professional starter qualification as a teacher.

This report describes the teacher training system and its structure as of December 1996. It also outlines the main implications of the 1996 National Official Report on vocational teacher training and examines briefly some of the issues and challenges to be faced in future.

2 Initial vocational education and training (IVET)

2.1 Structure of vocational education and training

Initial vocational education is part of upper secondary education, covering grades 10 to 12. Upper secondary vocational education commences at the age of 16 years with one of a choice of 13 one-year or two-year foundation courses and continues with one of a choice of 90 one-year advanced level I courses. The third and fourth years of the vocational track should involve an apprenticeship contract in one of approximately 250 occupations. The apprenticeship period is spent within an enterprise. Upper secondary pupils aged 18 who have completed an advanced level I course but cannot obtain an apprenticeship contract or have chosen a general education track have the right to proceed to a third year at school on an advanced level II course. Specific curricula have been developed for each field of study and occupation in vocational education and training. They include elements from the core curriculum and are based on the principle of learning by objectives.

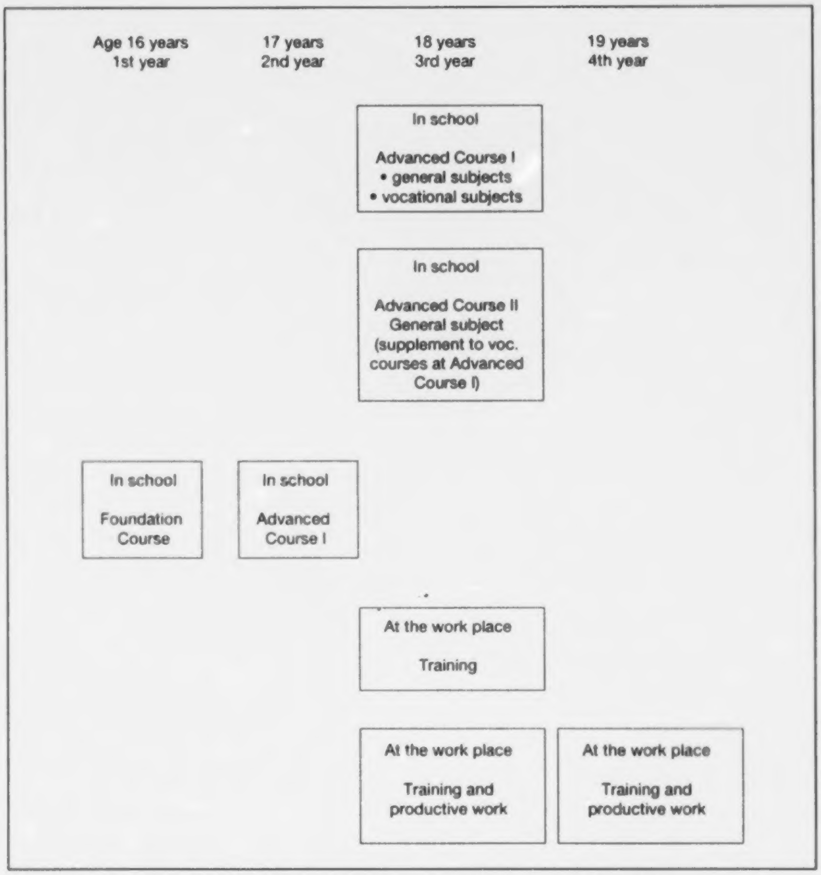

Figure 1: Structure of upper secondary education and training.

Foundation course

The 1994 reform reduced the number of foundation courses from over 100 to 13, thus deferring specialization to the advanced course and apprenticeship stage.

	Students	*Girls '94-'95*	*Students*	*Girls '95-'96*
Health and Social sudies	8,166	7,315	8,344	7,293
Music, Dance an Drama	1,308	834	1,411	876
Arts, Crafts and Design Studies	4,026	3,284	4,442	3,511
General and Business studies	27,416	16,532	27,820	15,151
Hotel and Food-Processing Trades	3,545	1,818	3,817	1,979
Sports and Physical Education	1,960	808	2,095	763
Chemical and Processing Trades	370	135	437	142
Agriculture, Fishing and Forestry	2,040	700	1,920	682
Wood Working Trades	646	140	646	128
Technical Building Trades	821	85	752	54
Electrical Trades	3,740	139	3,906	117
Engineering and Mechanical Trades	6,098	254	6,122	202
Building and Construction Trades	1,899	56	2,446	46
Total	65,469	31,876	64,159	31,044

Table 2: Breakdown of pupils by gender and choice of foundation course.

Upper secondary education and training provision is the responsibility of the counties (fylker). The curricula, timetables and final examinations, however, are administrated by national authorities.
Each school is run by a principal and a school board. Teachers, pupils and non-teaching staff each have their own committees.

Tuition at upper secondary school is free of charge, but pupils have to provide their own books and learning materials. Loans and scholarships are available.

Statistics

The statistics for July 1996 show the following:

- Equal numbers of male and female pupils are now entering upper secondary education.
- Almost all 16 year-olds proceed to upper secondary education.
- Almost one third of all pupils in vocational education aim to obtain an academic qualification in addition to a vocational qualification.
- 37.5% of pupils applying for an apprenticeship place are females.
- 22% of pupils applying for an apprenticeship place are 20 years of age or older.
- Ca. 56% of the intake at foundation course level aim for a vocational option as their first choice. This percentage is the same as in 1994; the figure for 1995 was ca. 57%.
- 2,200 pupils from the vocational track enrolled for the advanced general course in order to meet matriculation requirements.
- The percentage of pupils switching career tracks has been reduced from 11% to 6%.
- There has been little change in the gender bias in the selection of occupations.
- Enrolment numbers for natural science courses and higher technical education are low.

In-company practice

Of the time spent in enterprises, during which a fixed curriculum has to be observed, one half is devoted to formal training and the other (remunerated) half to productive work. Enterprises which take on apprentices are reimbursed by the Ministry of Education for the training component of the apprenticeship, the amount per apprentice being the equivalent of the cost otherwise incurred by one year of full-time school-based education plus a quality development supplement calculated over two years. The total remuneration per apprentice in 1996 was approx. NOK 68,000 (ECU 8,500), calculated as NOK 53,000 (ECU 6,625) as the cost of one year of schooling plus NOK 7,500 x 2 = NOK 15,000 (ECU 738 x 2 = ECU 1,476) as the quality development supplement. The supplement is intended for use on quality-enhancing programmes, e.g. training in pedagogy for the instructor responsible for training the apprentice.

Under the provisions of a national wage agreement, apprentices are paid between 40% and 60% of the corresponding basic starting wage of a skilled worker during the first and second years of their apprenticeship. The prospect of this income raises the attractiveness of a vocational training.

Qualification

On completion of upper secondary education pupils are awarded a diploma qualifying for higher education or a vocational qualification at skilled worker level or - as a minimum -a partial certificate counting towards either of these. Holders of the skilled worker qualification can, however, qualify for admission to higher education by attending an extra half-year of schooling to catch up on the general subject modules in Norwegian, English, science and mathematics which are automatically covered in general education.

2.2 Basic principles of upper secondary education

The 1974 Upper Secondary Education Act regulated the education of young persons aged 16 to 19 years. The basic concept was to integrate vocational and general education and also to integrate the various types of school providing upper secondary education. The former gymnas, schools with a general education bias, were to be integrated with the former yrkesskole, vocational schools.

Further aims were to give equal status to general and vocational education, to make upper secondary education available all over the country, and to ensure that all young persons have equal opportunities for education and training at this level.

2.3 Qualifications

All upper secondary education is intended to qualify its graduates either for admission to higher education or for pursuing a skilled occupation, i.e. it leads to either a general education qualification or a vocational qualification.

The journeyman qualification

As a general rule, a successfully completed foundation course qualifies for admission to advanced course I in the pupil's field of study. Programmes combining school and enterprise training generally consist of two years of school-based study (foundation course plus advanced course I), followed by one year of enterprise-based training. Some vocational courses involve three years of school-based study. Pupils who have completed the above must pass an examination in order to be awarded the journeyman qualification.

Other vocational qualifications

Pupils successfully completing a three-year upper secondary programme not leading to the journeyman qualification are awarded a corresponding leaving certificate.

Admission to higher education

The following study areas in upper secondary education lead to qualifications providing for direct access to higher education:

- general and business studies;
- music, dance and drama;
- sports and physical education;
- management and natural resources (advanced course II);
- drawing, design and chromatography (advanced course II).

Alternative matriculation requirements

The general requirements for admission to higher education are:

a Successful completion of a three-year upper secondary education comprising a foundation course, advanced course I and advanced course II, or a journeyman qualification.

b Successful completion of the following courses involving the stipulated amount of instruction:

Norwegian	(14 hrs/wk/year)
English	(5 hrs/wk/year)
Social studies	(2 hrs/wk/year)
Modern history	(4 hrs/wk/year)
Mathematics	(5 hrs/wk/year)
Natural sciences	(5 hrs/wk/year)

An "hour" is a lesson of 45 minutes' duration. This applies to general and vocational subjects and also to workshop practice.

Persons holding the journeyman or other vocational qualification can thus satisfy the general entrance requirements via additional study in the outstanding general subject course modules. A further alternative for persons having completed two years of vocational training is to take an advanced course II in general subjects.

2.4 Core curriculum

A core curriculum has been developed for primary, secondary and adult education which lays down the fundamental principles to govern the content, methodology and ethics of school instruction. Specific objectives have been determined for the development of:

- the spiritual human being;
- the creative human being;
- the working human being;
- the liberally educated human being;
- the social human being;
- the environmentally-aware human being;
- the universally integrated human being.

Principles

The basic principles call for:

- broad concept of knowledge which embraces theory, skills, ethical values and attitudes;
- the development of personal attributes such as social competence (ability to cooperate, to communicate, to be sociable), and learning how to learn, to solve problems, be creative, etc.

Another important feature of the core curriculum is its didactic and pedagogic approach calling for integrated subject and problem-centred learning. Pupils are expected to participate in planning the work programme and to take on responsibility for their own learning process, and special support materials have been developed for this purpose.

The core curriculum advocates adaptation as a basic teaching principle, the teaching mode being appropriate not only to subject and content but also to the pupil's age and maturity. Teaching should actively combine concrete tasks and conceptual understanding and should also allow for practical experience to be taken into account.

Practice in schools

As a basic principle the core curriculum states that "education must allow each individual to learn by observing the practical consequences of his or her choices. Practical work and training must therefore be an important and integral part of education".

Against this background, one major challenge to vocational teachers is how to make subject theory relate to pupils' interests and to the practical tasks pupils will be expected to carry out in future working life.

The core curriculum also covers apprenticeship training.

2.5 Study programmes and syllabuses

The core curriculum provides guidelines for developing the study programmes and syllabuses for each foundation and advanced course. The draft curricula were widely circulated prior to adoption for comment by teacher organizations and trade unions. The social partners (NHO - Confederation of Norwegian Business and Industry, LO - Norwegian Confederation of Trade Unions, teacher organizations) hold a majority position in the various bodies administrating the vocational education and training system and will continue to bring their influence to bear on decisions concerning vocational education and apprenticeship training after the reform has been fully implemented.

The new curricula are designed to promote continuity and cohesion within the education system from compulsory education through upper secondary education and apprenticeship training to adult education.

Principles The basic features of the new curricula are:

1 Broad-based syllabuses which cater for all training venues and learner groups. Previously, vocational education, apprenticeship training and adult education had different syllabuses.

2 A modular subject structure which also caters for all learner groups who, for whatever reason, are not undergoing a full study programme. The division into modules also makes it easier for schools to relate their courses to the needs of industry.

3 A wide concept of knowledge extending from the generation of knowledge and skills through ethical values and attitudes to personal qualities such as social competence, communication skills, etc.

4 An integrated approach to internationalization, environmental issues, and computer technology.

The teaching materials and subject coverage in the general curriculum are to some extent tailored to pupils' vocational specialization. For example, pupils on the foundation course in health and social services will learn a different vocabulary in English from that learned by pupils on the foundation course in mechanical engineering.

Several documents have been produced as support material for pupils and teachers to guide and facilitate the learning process.

Management by objectives The curricula are based on the principle of management by objectives, i.e. they focus on national objectives determined by central authorities.

The Ministry's reasons for clearly specifying objectives, including at syllabus level, are:

- to give regional authorities and schools leeway in ensuring that syllabuses reflect and correspond to local needs;
- to provide a basis for assessing attainment levels.

The Ministry's explicit intention here is to create scope for freedom and responsibility - in this case for teachers. At the same time, teachers are expected to be more flexible and to allow pupils to have a say in the development of study programmes.

Comments Critics of the management by objectives principle claim that its success in the form of more autonomy depends on how the objectives are formulated. Are the objectives flexible enough to allow teachers and pupils the freedom to choose options created by local needs and circumstances? Or are they too narrowly formulated, leaving no leeway for deviating from the textbooks? In the final analysis, the management by objectives issue is reviving the debate on relations between the professional teacher and the pupil and on the difficult balance between principle and practice in matters relating to autonomy and control.

2.6 Support materials

Various official documents have been published at national level to support initial vocational education and training.

The "Guide" for pupils

The "Guide" ("Veiviseren") has been produced by the Ministry of Education to help prepare pupils for actively participating in their learning process and contributing to the school environment.

Guidelines for teaching

Guidelines for teaching have been developed for each course programme. They give practical advice on how to fulfil the intentions of the national curriculum and how to organize learning processes in a systematic manner, providing examples of didactic approaches which give more responsibility to the learner.

Special guidelines have been developed for project-based studies, for special education, and for evaluation.

A further set of special set of guidelines on the same topics has been drawn up for the work-based training.

Portfolios of evidence

A "portfolio of evidence" system (opplæringsbok) is intended to follow the pupil through his/her training programme both at school and in apprenticeship. The portfolio is in booklet form and is part of the formal certification system.

Youth follow-up service

Each county has a legal obligation to run a follow-up service for young people who have a statutory right to education but are in neither training nor employment. The aim here is to offer the young people in question opportunities which will lead to some formalized form of competence. The follow-up service is operated in close cooperation with the various municipal, county and government institutions which today bear partial responsibility for this target group.

98% of all 16 to 19 year-olds are in education or employment - the large majority (over 90%) in education. The remaining 2% are singled out and contacted by the follow-up service. Only around 0.3% prove to be uninterested in finding work or training.

Quality in upper secondary education

A system of quality enhancement is to be implemented in upper secondary education on the basis of recently developed evaluation criteria. All schools and apprenticeship employers have a duty to develop an evaluation system involving both formal and non-formal evaluation elements. Pupils are encouraged to evaluate themselves and to participate in evaluation and guidance sessions with the teacher which also include an obligatory evaluation by the pupils of the teacher, the study programme and the school environment.

2.7 The vocational training system

IVET in Norway is regulated by two laws: the Upper Secondary Education Act of 21 June 1974, which regulates vocational education and training in schools, and the Vocational Training Act of 23 May 1980, which regulates vocational training at the workplace. These pieces of legislation have been revised and coordinated on numerous occasions since their enactment.

The Vocational Training Act

The Vocational Training Act aims to promote the development of skills, knowledge and a sense of responsibility with regard to working life and society. It refers to some 250 occupations and contains provisions concerning the following:

- apprenticeship status and entitlement to recruit apprentices;
- supervision and administration;
- rights and duties of apprentices and apprenticeship establishments;
- changes in contractual obligations;
- the master craftsman and journeyman examinations;
- grants to establishments.

Supervision and administration

The vocational training system is supervised and administrated by the following bodies:

National Council for Vocational Training

The National Council advises the Ministry of Education, Research and Church Affairs on all matters pertaining to vocational training. Its governing body includes representatives of employer and employee organizations and the Ministry of Education.

Vocational training councils

Each occupation or occupational field is associated with a vocational training council which acts as an advisory body vis-à-vis central authorities (National Council for Vocational Training and the Ministry of Education) and the county and municipality authorities. Vocational training councils are responsible for drawing up and updating training plans and curricula for their respective occupations and for laying down the criteria for the final examinations. Vocational training councils also serve as appeal bodies for challenging decisions made by county vocational training boards on matters relating to the occupation for which they are responsible.

County vocational training boards and vocational training committees

County vocational training boards are appointed by the Ministry of Education and bear administrative responsibility for implementing the provisions of the Act at county level.

Vocational training committees exist at county level for each occupation or occupational field. Their sectoral representation does not necessarily correspond directly with the 'clusters' of occupations making up the new foundation courses. The decision on which areas the training committees are to cover is taken at county level, and the "relevant" training committee is that responsible for the occupation concerned in the county concerned.

The tasks of vocational training committees are as follows:
- to advise the county authorities on matters relating to vocational training;
- to promote and develop vocational training;
- to monitor local compliance with the provisions of the Act;
- to approve training establishments and apprenticeship contracts;
- to appoint members of examination boards and supervise the master craftsman and journeyman qualification;
- to allocate grants to training establishments.

Apprenticeship Several bodies are responsible for implementing the apprenticeship element of upper secondary education and training.

Training offices

Training offices promote cooperation between several training establishments:
- contracts of apprenticeship are signed with the apprentice and the training office as signatories;
- apprentices are trained in one or several member establishments.

Each training office must have at least one full-time or half-time administrator.

Training circles

A training circle consists of two or more companies within the same county which jointly assume responsibility for training apprentices. A school can also be member of a training circle insofar as it can contribute to the circle's organizational and training activities but cannot assume an employer's responsibility for apprentices. The leading training establishment within the circle is a signatory to apprenticeship contracts.

Training circles obtain financial support from the Ministry of Education provided they have at least three apprentices.

Usually, each training circle engages a part-time secretary to coordinate its operations.

Training establishments

A training establishment may be a training circle or a single company. Each training establishment must:
- have a qualified instructor for its apprentices;
- be able to provide training in accordance with the established training curricula;
- be approved by the relevant county vocational training committee;
- monitor each apprentice's attendance;

- enter the apprentice for the journeyman examinations and provide the necessary space, materials and tools for the apprentice to prepare for and sit the examinations.

Apprenticeship contracts

Anyone under 20 years of age who has successfully completed compulsory education and has obtained employment in a regulated occupation qualifies under the Vocational Training Act for apprenticeship status. Employees over 20 years of age may sign apprenticeship contracts if they wish. All apprenticeship contracts have to be approved by the vocational training committee at county level.

2.8 Reform '94 - challenges for vocational teachers

The reduction in the number of foundation courses from around 100 to 13 entailed the amalgamation of the pre-existing foundation courses, each with its own occupational tradition and culture. One example is the new foundation course "art, craft and design", which includes the former courses on hairdressing, floral decoration, dental technology, photography, graphic design and art and design. This integration process has posed difficult challenges with regard to subject distribution and representation and also the development and implementation of curricula.

Innovation

Vocational teachers are now facing many new demands:

- more collaboration in instruction planning and teaching;
- broader and deeper professional competence;
- mastering the new curricula and working methods, including a more pupil-centred pedagogic approach;
- same-age classes of 16 year-olds only, without the presence of younger or less mature pupils and also without the adults who typically attended foundation courses in the past.

In addition, general subjects have been given a more prominent place in vocational education. How are less academic pupils suffering from "school fatigue" coping with this challenge? How will teachers and school administrators be able to motivate and support such pupils, to enable them to experience success?

The reform is in many respects a pedagogic reform seeking to link knowledge, skills and attitudes to the practical business of pursuing an occupation at a later date and at the same time aiming to relate these in a meaningful way to the pupil's current perception of life.
Close attention is currently being paid to the number of apprenticeship places available. On 1 October 1996 there was a shortfall of 6,000 places. Since then 285 extra advanced level II classes have been set up in schools. The promise and intention of two years in school followed by two years in apprenticeship have thus not yet been fulfilled for all pupils opting for the vocational track.
This fact alone reveals some of the challenges which will have to be addressed in the coming years.

3 Teachers and trainers in vocational education and training

In considering the function of teachers and trainers here, the term "teacher" refers to a teacher in a school whereas the term "instructor" is used for persons carrying out a teaching or training function in industry and work-based training.

3.1 Statistical data

The official statistics organization in Norway, Norwegian Statistics, makes no distinction between teachers employed in general education and those employed in vocational education.

The number of teachers reported by Norwegian Statistics to be employed in upper secondary education on 1 October 1995 was as follows:

	Full-time	Part-time
Women	5,982	4,097
higher level	1,169	737
intermediate level	2,978	2,118
lower level	769	1,023
admin. functions	942	212
principals	105	7
Men	12,605	3,400
higher level	2,998	812
intermediate level	4,957	1,436
lower level	1,851	1,393
admin. functions	2,110	210
principals	339	23

The total number of teachers employed in higher education was 10,366 on 1 October 1994 (NoS: 1996):

Universities	5,224
State colleges	4,566
Other colleges of higher education	576

3.2 Teachers in vocational education and training

Three main categories of subject teacher are found in vocational education:

- teachers of general subjects;
- teachers of special vocational subjects, i.e. those teaching vocational subject theory and practice in primary and secondary education;
- teachers of workshop-based vocational practice and vocational theory.

The vocational track of upper secondary education covers a broad range of study fields (see the list of foundation courses in Section 2.1 above). These extend from traditionally male domains such as mechanical and electrical engineering to the more recently established course in health and social studies.

The decision on who is to teach vocational theory depends on school organization, the degree of theory/practice integration, leadership and attitudes. In some schools it is the traditional vocational teacher who is in charge of both workshop practice and vocational theory, in others it is a teacher with a classical technical university qualification.

3.3 Development of training material

Teaching and training material has to be approved and is normally produced in book or booklet form by a publishing house. Much of the teaching material for the vocational track is written by well experienced and competent teachers. Additionally, teachers are encouraged to produce their own training materials, i.e. to design their own work assignments or at least make creative use of the available published material.

3.4 Teacher unions

In August 1993 two teacher unions amalgamated to form the Norwegian Union of Teachers; the unions concerned were the National Union of Vocational Teachers and the Norwegian Educational Association with memberships of 8,000 and 20,000 respectively, and these were joined by some 3,300 members from other teacher organizations. A further teacher union, the Norwegian Teacher Trade Union, also has vocational teachers as members. Approximately 1,800 of its total membership of 3,600 are employed in vocational education and training.

The Norwegian Teacher Trade Union operates under the umbrella of the Norwegian Federation of Trade (LO). The Norwegian Union of Teachers operates under that of the Federation of Norwegian Professional Associations (AF).

Both the Norwegian Union of Teachers and the Norwegian Teacher Trade Union are recognized as co-decision-making social partners and consultative bodies in matters of education policy.

3.5 Instructors

Instructors responsible for training apprentices are skilled workers holding the journeyman qualification. In the small enterprise sector, only few companies appoint someone specifically to take care of the apprentices. In those which do, this person is often a senior manager or a skilled worker - or a number of skilled workers carrying out training duties on a rotating basis.

4 Regulations governing teachers and trainers

The 1973 Teacher Training Act distinguishes between three levels of teaching qualification: "lærer", "adjunct" and "lektor", these titles being awarded after 3, 4 and 6/7 years of training respectively. The "lærer" holds a lower degree, the "adjunct" an intermediate degree (the equivalent of a B.Ed) and the "lektor" a higher degree (the equivalent of an M.Ed.).

There are no official standards against which teachers are assessed or evaluated after completion of their training.

No official regulations exist for trainers or instructors in industry.

4.1 Teachers' conditions of employment

In 1996, all teachers had a workload of 1,717 $^1/_2$ hours/year, this figure including the time necessary for preparation, correction, meeting parents, etc. Teachers are required to be present at school for a fixed fraction of their annual worktime, namely during a period of 39 weeks (38 weeks of teaching plus one week of planning and in-service training).

Work load

Teaching duties are fixed as a certain number of contact hours per year and an average number of contact hours per week, the latter depending on the subjects taught and the level of education concerned. Teachers should also be available at school for five hours per year for purposes other than classroom teaching.

The conditions of employment for teachers of general and vocational subjects differ slightly in some respects:

	General subjects	Vocational subjects
Number of pupils in class	30	12 - 15
Number of hours per week devoted to classroom teaching	15.7 - 17.7	19.7 - 21.4

Table 3: Number of pupils per class and number of contact hours per week.

Salaries

Teachers of general and vocational subjects qualify for the same gross annual salaries:

	Start	After 28 years
Lower degree	NOK 174,000 (ECU 21,750)	NOK 214,000 (ECU 27,500)
Intermediate degree	NOK 190,000 (ECU 23,750)	NOK 245,000 (ECU 30,450)
Higher degree	NOK 208,000 (ECU 25,000)	NOK 270,000 (ECU 33,730)

Table 4: Teachers' salary levels (8 NOK = 1 ECU, November 1996).

The salaries of teachers holding a higher or intermediate degree do not compare favourably with those of other public-sector employees with an equivalent length of professional training and compare even less favourably with those of private-sector employees with a similar level of education. The salaries of teachers with a lower degree is are substantially lower than those of comparable groups in the private sector. There is no discrimination against female teachers in terms of remuneration.

Appointment

Generally, teachers in upper secondary education are appointed by the county and teachers working on a temporary or supply basis are appointed by the school concerned. Some schools, however, have been granted a special status which allows them more budgeting autonomy, including the appointment of teaching staff.

Teachers' workroom facilities

Most teachers have access to a workroom at school, which is usually shared with several other teachers. An investigation conducted by the Norwegian Union of Teachers in 1995 revealed that the average number of teachers sharing a workroom is 13, and that one in every four teachers shares a workroom with 20 or more colleagues. The same investigation also reports that teachers are dissatisfied with the facilities for preparing their instruction.

Some vocational teachers have an office adjacent to the training workshop.

Retirement

Teachers have the same retirement age as other occupations -70 years- and can opt for early retirement at 64 years of age. All teachers who have more than a 35% post are automatically members of the Norwegian Public Pension Fund, into which they pay 2% of their gross salary each month. A teacher who has held a 100% post for 30 years qualifies for a pension equal to 66% of his/her final year's salary, though if that person had previously earned a considerably higher salary, this fact is taken into account.

The pension for an adjunct is around NOK 13,000 (ECU 1,625) per month; that for a lector is around NOK 14,300 (ECU 1,788) per month.

Competence updating

Teachers have neither a right to a sabbatical year nor a right to spend time out in companies or other organizations in order to upgrade their competence.

Job security

The unemployment rate among teachers is low. In the event that a school is restructured or a falling roll causes its closure, every teacher with a tenured post is guaranteed the offer of a job at another school within the county. If no teaching vacancies are available, the teacher is offered an alternative job within the county to be remunerated at the level of the former teaching post. Under the same circumstances, a teacher who is not permanently employed risks losing his/her job.

4.2 Regulations governing trainers

No formal qualifications are required of trainers or in-company instructors, and private employers are under no legal obligation to provide upgrade courses for their training personnel, though several industries are now running their own training of trainers programmes.

As the core curriculum also obtains for apprenticeship, companies which employ apprentices now have a responsibility to ensure curriculum compliance in their work-based training. The evaluation system has also been changed: formal and informal evaluation is to take place systematically, the portfolio of evidence system is to be implemented and instructors are to undertake performance assessment.

5 Training paths leading to qualification as a teacher or trainer

All teacher training for primary and secondary education is regulated by the Teacher Training Act of 8 June 1973, which entered into force in January 1975 and stipulates that training shall comprise both initial and further (post-graduate) training.

Section 2 of the Act states:

"1 The purpose of teacher training shall be to develop the academic and pedagogic knowledge and skills necessary for planning, implementing and evaluating instruction in a manner which takes account of individual pupil capabilities and the objectives of the type of education for which the training is intended.

2 The training shall further the personal development of the individual student, arouse interest in educational development, and provide a foundation for understanding the connection between the teaching profession and the function of the school within the community."

The teaching certificate is awarded by the college concerned after the student has fulfilled the national qualification requirements. This certificate is a prerequisite for obtaining a tenured teaching post.

5.1 General information on teacher training

Teacher training is provided at universities and colleges. At higher education level it is available at the universities of Oslo, Bergen, Trondheim and Tromsø, at six specialized national colleges and at a number of state colleges. Until 1994 the latter category included a wide range of institutions: regional colleges, colleges of education, colleges of engineering, colleges of social work, etc. Following a comprehensive college reform and the "Network Norway" programme, by August 1994 the number of institutions in this category had been reduced from around 100 to 26. The university training qualifies for teaching general subjects at upper secondary level.

Until January 1993, teacher training for vocational specializations was provided at several colleges: the National College of Education for Vocational and Technical Teachers (NCEVTT), which held national responsibility for training teachers for technical and vocational fields, Stabekk College, with its long tradition in educating women, which catered for nutrition, health and environmental subjects, and the National College for Teachers of Commerce, which was responsible for commercial subjects. In January 1993 a reorganization process spread the activities of the former NCEVTT over 10 colleges, though the former NCEVTT still serves as a networking centre for the "Network Norway" programme. Stabekk College was amalgamated with the former NCEVTT to form the Department of Education for Vocational and Technical Teachers of Akershus College. The former National College for Teachers of Commerce is now part of Buskerud College.

5.2 Selection and admission

Applicants for teacher training in vocational subjects are not required to hold the matriculation qualification but are required to have the following:

a a skilled worker qualification;
b four years of occupational experience;
c two years of further study of "relevant" vocational theory, i.e. one of the following:
  - an advanced course in general technical and managerial skills;
  - a further education course in a technical specialization;
  - a technical course to broaden a technical specialization;
  - a course of general studies.

The teaching certificate programme can be in the form of one year of full-time study or two years of part-time study.

The applicant selection procedure is the same for full-time and part-time study and functions on the basis of defined priorities:

Priority 1
Applicants holding a temporary teaching post who undertake to complete the teaching certificate course within a certain time limit, usually three years. The prioritized positive criteria for this category are:

1 length of service as a teacher;
2 number of years of work experience and education beyond the minimum qualification requirement;
3 age: older applicants are given priority.

Priority 2
Applicants holding a temporary post who, after obtaining the teaching certificate, will qualify for a tenured post as a vocational teacher in upper secondary education. The prioritized positive criteria here are:

1 number of years work experience and education beyond the minimum qualification requirement;
2 number of years of teaching experience;
3 age: older applicants are given priority.

Priority 3
Applicants not employed at a school but who, by obtaining the teaching certificate, will qualify for employment as a vocational teacher in upper secondary education. The prioritized positive criteria here are:

1 total number of years of work experience and education beyond the minimum qualification requirement;
2 age: older applicants are given priority.

5.3 Training tracks leading to the teaching profession

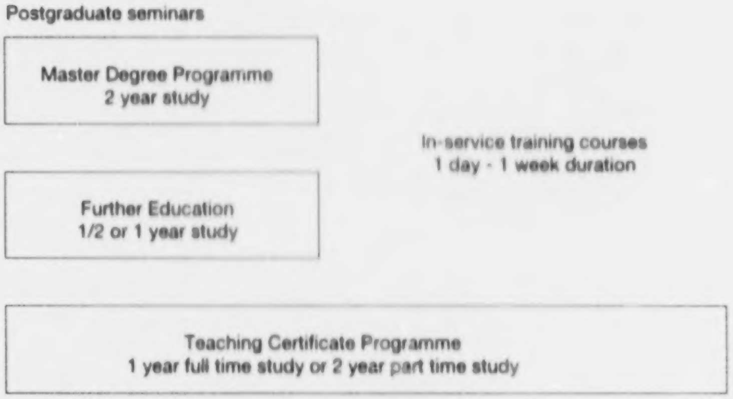

Figure 4: Structure of vocational teacher training.

The study duration indicated applies to full-time study; one year of full-time study equals two years of part-time study. Most students opt for the part-time format.

Vocational education has three main subject categories: general subjects, vocational theory and workshop practice.

Teachers of general subjects

Teachers in this category are trained at the Engineering University in Trondheim (NTH) or another university. To be certified as a teacher these students have to attend a one-year university course in pedagogic theory and practice.

Teachers of special vocational subjects

Teachers of special vocational subjects are trained mainly at universities, colleges or conservatories. The course is of three years' duration and includes one year of study in educational theory and practice. Teachers of special vocational subjects teach the theory and practice of their subject in primary and secondary education.

Colleges of education offer three-year courses for special subject teachers in the following areas:

- arts and crafts;
- nutrition, health and environment;
- commerce;
- physical education.

The eligibility requirements for applicants here include the general entrance qualification for higher education (matriculation).

Teachers of workshop practice and vocational theory

Although the vocational track of upper secondary education covers a broad range of traditional and modern fields of study (see the list of foundation courses in Section 2.1 above), teachers of vocational and technical subjects at this level usually qualify to teach on the basis of the following:

- a journeyman qualification (3 to 4 years);
- study of vocational theory (2 years);
- occupational experience (4 years);
- teaching certificate (1 year);
- continuing education up to the master degree (M.Ed.).

Some teachers have taken advanced courses in their specialization or in pedagogy. Quite a few have proceeded to obtain a bachelor degree, and some hold the master degree specifically designed for vocational teachers.

Most teachers of "health and social studies" are college-educated with a three-year training as a subject teacher in "health, nutrition and environment" or as a health professional. The training as a subject teacher includes training in pedagogy. Nurses are required to supplement their nursing training with a course in teaching.

5.4 Profiles of full-time and part-time courses

Although the selection procedure is the same for full-time and part-time study and the student groups on both courses are fairly heterogeneous insofar as both cater for most occupational specialisms, the overall profiles of these study formats differ to some extent.

The part-time teacher training course at Akershus College -for example- typically has 25 to 28 students, mainly men aged between 30 and 50 years and all holding a post at a school. The number of female students varies between one and seven, and many of these students have a nursing or other health professional background.

Most students hold a journeyman qualification and have several years of occupational experience. Many have had company management experience and have kept their occupational skills up to date by attending skill update and management courses at a technical college or the Norwegian Institute of Technology.

The full-time teacher training course also has 25 to 28 students but the class is more heterogeneous: the number of female students is higher -10 to 12- and only few of the students have experience of teaching in upper secondary education. Some students attend the course in order to give themselves "time to think about their lives" or to experience "what it is like to be a teacher". Others are highly motivated to teach and are consciously planning a career in school or in work-based training.

Students who have experience of teaching in higher education normally undergo teacher training at a university though some opt for the college course for vocational and technical teachers.

5.5 Studies in vocational theory

As stated in Section 5.2 above, admission to a vocational teacher training course presupposes not only a journeyman qualification but also two years of study in vocational theory.

There has been and still is a shortage of this type of course for most fields of study represented in upper secondary education, and the needs perceived here account for some of the background for the future reform of teacher training briefly outlined in Section 6.4 below.

For teachers in the vocational and technical field, courses in vocational theory are offered by technical colleges (tekniske fagskoler), colleges of higher education, universities and also various national trade federations.

Technical colleges are not institutions of higher education, and students are admitted on the strength of a journeyman qualification plus occupational experience. The courses fall within the upper secondary education sector and prepare students for supervisory positions in industry or for entry to higher education, e.g. to study for a college degree in engineering.

The Norwegian Institute of Technology has traditionally offered courses which count towards teacher training but has recently reduced its commitment to this field. The only course currently being run is for the furniture and woodworking industry. The courses were originally designed to upgrade occupational and managerial skills and are not specifically geared to the needs of the education and training sector.

The Department of Education for Vocational and Technical Teachers of Akershus College runs -inter alia- the following six-month courses:

- hairdressing / beauty therapy / foot therapy;
- cookery, waiting at table and food processing;
- electronics for teachers of mechanical engineering;
- construction technology (Nord Trøndelag College).

These courses are specially designed for vocational teachers, i.e. they focus on both technical and educational aspects. The latest study programmes also reflect the philosophy, content and methods of the Reform '94 for upper secondary education.

5.6 Funding of studies

Students on all full-time and part-time courses preparing for vocational or technical teaching posts have the same right as every other student to apply for a loan or grant from the "Statens Lånekasse for Utdanning". Loans are granted provided that the student's income does not exceed a fixed amount. Some students, mainly those on full-time courses, have been granted fully or partly paid leave of absence by their employer. The employer in this case is not usually a school.

6 Initial training programmes for teachers and trainers in vocational education and training

The following focuses on the teaching certificate programme.

All teacher training for primary and secondary education is regulated by the Teacher Training Act of 8 June 1973, which entered into force in January 1975 and stipulates that teacher training shall comprise both initial and further training.

Initial teacher training programmes for vocational teachers are offered by 10 colleges which are affiliated to a network operated by the former NCEVTT, now Akershus College, Department of Education for Vocational and Technical Teachers, Campus Bygdøy. As the network operator, this institution runs initial teacher training courses, further education programmes, master degree courses and in-service courses, all specially designed for vocational teachers. It additionally offers customized study programmes on a contractual basis, mainly in the field of corporate competence-building. Being a higher education institution it is also required to make high-quality contributions to research and innovation in the field of vocational education and training.

The colleges are financed directly by the Ministry of Education, Research and Church Affairs, and each college department then has to negotiate in competition with other departments for its budget on the basis of the number of full-time student equivalents per year.

In 1993/94, 157 men and 328 women completed an initial teacher training course for vocational teachers (source: Statistics Norway 1996).

6.1 National curriculum guidelines for teacher training

Each teacher training institution develops its own study programmes within the framework of "National Curriculum Guidelines", which provide guidance on course structure and content. The study programmes have to be approved by the Institutional Board of the Teacher Training Department.

The Guidelines deal with six elements of course programming: introduction, aims, content, organization and working methods, supervision and in-service training, evaluation and examinations.

6.2 Objectives

The National Curriculum Guidelines stipulate that during the training the student shall:

- develop insight into his/her own ways of working and reacting and show an ability and willingness to change these;
- develop a consciousness for pedagogic values and their implications for teaching, tutoring and learning;
- develop the ability to understand, accept and help each pupil in their occupational, social and personal endeavours;
- acquire knowledge, skill and experience in planning, implementing and evaluating instruction taking due account of the following:
  - the abilities of the individual pupil / trainee;
  - the teaching environment;
  - the long-term and short-term aims of the instruction;
  - the learning content;
  - different working methods;
  - different modes of evaluation;
- learn to understand, plan and prepare the learning process with a view to the nature of the occupation concerned, i.e. its traditions, culture, skill demands and the technology used;
- develop written and oral skills in Norwegian and a conscious understanding of the significance of language in the learning process;
- develop a conscious understanding of how school and working life function within society;
- develop the ability to initiate innovation in vocational education.

6.3 Implementation of training

These objectives are to be met by means of the following training activities.

Experimental learning

The student's own experience is perceived as an important resource for developing knowledge and understanding. Reflection on experience gained during previous practice and the study programme is an important aspect of the course.

Problem-centred or task-centred learning

The training is strongly geared to the practical aspects of the students' professional lives at school, and its content is required to relate to "real-life" problems, i.e. be contextualized.

Participation

Students have a right and an obligation to participate in developing both course curricula and their own learning process. They are actively represented on departmental and college decision-making bodies. As part of the quality assurance system they are required to evaluate the educational organization, their teachers and their own learning process on the basis of the objectives specified in the National Curriculum Guidelines and the college course prospectus and also their own aspirations regarding the impact of the course.

Emphasis on practical aspects and theory/practice integration

Two further pillars flanking the experiential learning approach are emphasis on the practicalities of teaching and the integration of theory and practice. The students' work assignments are based on realistic problems encountered at school and in working life. Problems and experience are at the same time analysed and evaluated in the light of the relevant theory. This approach also allows the training institutions to weight the main study areas of the National Curriculum Guidelines differently to respond to the students' diverse work situations, training backgrounds and practical experience.

Methodology

Methodology is seen as being as important in the curriculum as the course content, and emphasis is placed on describing and analysing the students' previous and current experience as a means of advancing the learning process. Practical, cognitive and affective aspects are seen as inseparable elements of teaching and innovation and are therefore all taken into account in the formulation of assignments and the learning process.

The methodologies used cover a wide range and include lectures, presentations and discussions in plenary, problem-solving and project work carried out in groups, the videotaping of training sessions held with fellow students, and other group-driven learning processes.

The full-time course provides for four days of organized learning activities per week. The part-time course starts normally with a two-week block session which is followed by training on Fridays and Saturdays. Neither course has a rigidly fixed format, and students and teachers share responsibility for developing their own syllabus within the framework of the approved National Curriculum Guidelines and the institution's curriculum.

Main fields of study

The main fields of study are:

- education theory;
- didactics;
- special education;
- vocational innovation and development;
- the Norwegian language and communication.

Education theory, didactics and the in-depth study unit on special education are studied throughout the course. Other fields, e.g. the Norwegian language and communication, are addressed over shorter and more concentrated periods of time. The in-depth study unit on vocational innovation and development is addressed last towards the end of the training.

Supervision

Supervised teaching and training practice is carried out in schools and enterprises, but all students have to complete some teaching practice in an upper secondary school. Other forms of teaching and training practice carried out in companies and other organizations may be considered as relevant and valuable for acquiring supervisory and tutoring skills.

In schools

The school-based and work-based teaching practice aims to establish and make students aware of the links between theory and practice and thus place their teaching competence on a broad and sound foundation. It also aims to develop understanding of, skills in and attitudes towards teaching and other education and training duties. Students are expected to reflect on their own teaching performance and to derive guidance from the course on developing their own approach to integrating theory and practice.

In practice

Teaching and training practice is organized differently for the two types of course format. The full-time course provides for eight weeks of practice in a tutor's classroom (25% of the study year), split over two four-week periods. Students on the part-time course spend four weeks in their tutor's classroom. All students must have obtained leave from their employers to carry out teaching practice. Part-time students are additionally supervised in their own classes throughout the entire course. Each student has a tutor to supervise his/her teaching practice who is usually an experienced and highly competent teacher in the field aspired to by the student. A few tutors hold tenured posts at the teacher training college; others are engaged on a temporary basis to tutor groups or individual students. Most tutors are employed part-time in the teacher training department. Several institutions offer extensive courses in training and tutoring plus in-service courses of a few days' duration intended specifically for vocational tutors.

6.4 Perspectives for future teacher training

A Royal Commission (Valla Commission) was appointed on 31 October 1995 to draw up a report on preparing teacher training institutions and teachers for coping with the challenges posed by the on-going reform programmes. The Commission submitted its report in September 1996 (NOU1996:22).

The report examines revising the training provision for pre-school teachers, teachers of general subjects and teachers of vocational subjects.

6.5 Proposed reform of teacher training

The following proposals are to be widely discussed before being debated by the Storting in spring 1997.

A three-year course is suggested as the principal model for training teachers and trainers for vocational and technical education and training. The course would provide the necessary background in vocational theory for teaching in upper secondary education and training in the post-Reform '94 era, i.e. develop the competence for teaching on both the broad-based foundation courses and the more specialized advanced level I and II courses. This three-year course would also include a one-year teaching certificate programme with an extended (8 to 12-week) period of supervised teaching practice.

The Commission recommends that the eligibility requirements for training as a vocational teacher should be:

- the journeyman qualification;
- six months to one year of study leading to the general matriculation qualification;
- two years of occupational experience;
- three years of teacher training, including study of vocational theory.

This model, it is suggested, should be the principal model which would also replace the three-year course for teachers of special vocational subjects referred to in Section 3.2 above.

Another proposal advanced in the report is the establishment of a common teaching certificate course for students with a general and vocational background which would be based on the principles set out in the National Curriculum Guidelines (see Section 6.2 above).

The report also raises some interesting and important questions:

- If the teaching certificate course is to be unified and to replace the two existing courses for general and vocational teachers, how should it be organized?
- Should the different categories of teacher in upper secondary education train side by side in the same class and institution? Or should different institutions offer courses specifically designed for the different categories of teacher? Here again the outcome is a matter of how the intentions, objectives and methods are formulated in the Guidelines. Will the wording be sufficiently flexible to allow for separate courses?
- Which rationale will prevail and who will be the predominant protagonists who determine the principles to govern the practicalities of planning and implementing the training and conveying the experience of learning?
- How are links to be established with the extra-college work environment?

A further problematic consideration with this extended vocational teacher training course would be the recruitment of suitably competent specialists. How could schools motivate highly competent professionals to switch to teaching, i.e. to leave good and well paid positions in order to attend a teacher training course of this format?

7 Continuing education and training

7.1 General information

The following refers to blocks two and three of Figure 4 in Section 5.3 above showing the structure of vocational teacher training in Norway.

The official guidelines applicable to in-service training basically stipulate the following:

- In-service training should be closely linked with educational development and innovation and should qualify teachers for R&D work.
- Educational development and innovation at schools should originate "from within and below".
- The establishment and use of networks should be encouraged as a means of promoting in-service training and innovation.
- In-service training should be school-based and have a practical emphasis, and the results should be disseminated to other schools and interested parties.

The Teacher Training Act of 8 June 1973 regulates in-service training in chapter 2, section 4, as follows:

"1 In-service training shall comprise various forms of training intended to refresh and expand academic and pedagogic knowledge and to keep teachers informed on and abreast of developments in school and society - but without having any effect on their formal qualifications.

2 The state, counties and municipalities shall cooperate to ensure that teachers, principals and other staff with special responsibilities within the school system are given opportunities to undergo in-service training. Leave of absence for in-service training may be granted on conditions to be detailed by the Ministry."

A central body within the Ministry, the Continuing Teacher Training Section (Statens Lærerkurs), is primarily responsible for ensuring that all teachers have the opportunity to participate in continuing education, which is defined in Norway as comprising in-service training and further education, including courses leading to the master degree, intended to upgrade professional competence.
Responsibility for organizing continuing education for teachers rests largely with the authorities at regional level and the various college departments engaged in teacher training.

In-service training

In-service training is intended to update professional competence. Essentially flexible in terms of organization, content and methodology in order to meet the diverse needs encountered at school, it can take the form of short courses or school-based innovation projects. In-service courses may in principle address any subject of interest. In-service training is paid for by the employer - the county authority and/or the school concerned. It does not lead to any formal qualification.

A new agreement on in-service training concluded between the Ministry of Education, Research and Church Affairs and the various teacher unions came into effect on 1 January 1994. It states that the time to be spent on in-service training and competence development should be laid down jointly by the school and the local authority for each school year. The local or regional authority is to draw up a general plan for in-service training and teacher development which can be geared to the needs of each individual school.

For teachers in primary and secondary schools there is a built-in system of update training and education planning days amounting to 40 hours -or one week- per year spread over the year.
For upper secondary teachers, compulsory in-service training is arranged over five days during the school year. Continuing education can also be made compulsory in order to familiarize teachers with new curricula, especially in technical and industrial subjects.

Apart from the above arrangements, there is no systematic or compulsory in-service training for teachers. National, regional and local authorities are, however, required to provide for in-service training opportunities for teachers in fields of particular priority, interest or need.

In-service training is also initiated by colleges, often in response to needs and wishes expressed by schools or teachers.

Further education

In contrast to in-service training, further education is clearly defined in terms of scope and content and leads to formal qualifications. Teachers embarking on a course of further education do so at their own initiative and expense, but salary increments accrue for a master's degree or even a one-year course. Applicants for further education must have completed the basic teacher training, i.e. have obtained the teaching certificate. Further education is an extension of the basic training in terms of breadth and/or depth.

Further education programmes extend over periods of between six months and two years but are usually organized on a part-time basis (i.e. with a correspondingly higher number of semesters).

The formerly clear distinction between in-service training and further education has become blurred over recent years, and vocational teachers now have possibilities of signing up for further education courses run on a modular basis with each module offered as an in-service training course. Examples of this format include the further education courses on special education and counselling.

The possibilities for vocational and technical teachers to obtain formal qualifications through further education are regulated either in the National Curriculum Guidelines which are approved by the Ministry of Education (e.g. the courses on special education and counselling) or in college-approved curriculum outlines. Curricula for further education courses are usually drawn up jointly by representatives of the education system and external professional organizations.
The further education provision for vocational and technical teachers also includes a master's degree in vocational education.

The level of formal qualifications held by teachers has risen over the past decade. The proportion of teachers in compulsory education holding the "adjunct" (B.Ed.) qualification increased from 40% in 1980 to 56% in 1990. In upper secondary education, a higher degree is held by approximately 6% of teachers of technical and vocational subjects and by approximately 60% of teachers of general subjects.

7.2 Further education for vocational and technical teachers

Akershus College, Bygdøy campus, offers the following courses specially designed for teachers in vocational and technical education. Table 5 refers to block 2 in Figure 4 showing the structure of vocational teacher training in Section 5.3 above.

Innovation work and studies for technical and vocational teachers	I 1/2 year 10 points II 1/2 year 10 points
Information technology	I 1/2 year 10 points II 1/2 year 10 points
Special Education	I 1/2 year 10 points II 1/2 year 10 points
Counselling and guidance	I 1/2 year 10 points II 1/2 year 10 points
Norwegian language	I 1/2 year 10 points II 1/2 year 10 points
Environmental studies	I 1/2 year 10 points II 1/2 year 10 points
English language	2 modules of 1/4 year 10 points each
Mathematics (planned)	

Table 5: Further education courses for vocational and technical teachers.
20 points = 1 year of full-time study

A total of 430 and 303 persons, respectively, attended these further education courses in 1994 and 1995.

Further education and Reform '94

In connection with Reform '94, a budget of NOK 13,800,000 (ECU 1,725,000) was earmarked for further education courses leading to a formal qualification, and the Ministry's Continuing Teacher Training Section pointed out in 1995 that vocational teachers had more and more varied further education opportunities in 1994/95 than ever before. Courses were offered in the following fields: construction; foreign languages; health and social studies; hotel management and food processing; business administration; mathematics; general and mechanical engineering; agriculture, fishing and forestry; environmental protection; Norwegian; pedagogy; carpentry; building technology and services; information technology. The courses varied in length from three to six months (attracting 5 to 10 points), and most were organized on a part-time basis.

7.3 Master's degree in vocational education

Norway was one of the first countries in Europe to set up an M. Ed. degree course in vocational education. It was launched in 1978 by the then NCEVTT. A total of 147 students, 40 of them women, have since been awarded the M. Ed. in vocational education.

Background

The launch of the course should be seen in conjunction with the 1974 education reform and associated legislation on upper secondary education which aimed to confer equal status on general and vocational education. The legislation provided for the integration of the various types of school for 16 to 19 year-olds which had until then existed side by side. One of the consequences of the legislation was a need for the different categories of teacher to be able to train to equal levels.

Aims

The master degree course qualifies the student for employment in the vocational education and training system, i.e. in upper secondary education, enterprises and their organizations and the public sector. One of its main aims is to strengthen the student's knowledge and understanding of pedagogy and didactics in the vocational sector. It also familiarizes the student with scientific strategies and methodologies, qualifying him/her for innovation, research and development work in vocational education. Special attention is paid to developing an understanding of the role and function of vocational education within society.

Main content

The course concentrates on two main fields of study:

1 Introduction to scientific thinking: strategies and methodologies and the development, role and function of the vocational education and training system (approx. 50%);
2 Documentation of innovation / research / development activities (approx. 50%).

For their master thesis, students select a topic from the following fields:

- theory and practice of didactics in vocational education,
- development of teaching materials;
- curriculum analysis;
- skill analysis;
- internationalization;
- evaluation.

Over the years the master thesis has become more geared to action-oriented methodologies.

Recent master theses have addressed the following topics:

- "Organizational consultancy in an enterprise";
- "Building competency for energy-saving: Norway - Lithuania partnership programme";
- "Individual learning and organizational change as a circular process. A method for EDB-based competence development in an enterprise";
- "The impact of examinations on teaching. A didactic analysis based on interviews with teachers";
- "Evaluation of pilot projects".

Methodologies

The methodologies used on this post-graduate course reflect the student's teaching and innovation tasks at school:

- individual work in the periods between college sessions;
- group work during college sessions, with students presenting their own work for discussion by fellow-students;
- lectures on central themes during college sessions;
- consultation with tutors on individual work and group work carried out between and during sessions.

Course organization

The course is normally run as a four-year, part-time course. Throughout the course the college-based training involves lectures and other learning activities in class and tutoring in small groups, usually of about five students. The first semester starts with a two-week session which is followed by two four-day sessions. The remaining seven semesters entail three four-day sessions per semester. During the course the student is required to work on three pilot projects and his/her master thesis.

7.4 In-service training and Reform '94

In-service training was seen as an important element in implementing Reform '94, and a national plan of action for in-service training was designed and organized by the Ministry of Education to flank its introduction. The action plan was intended to upgrade the competence of both teachers in upper secondary education and instructors engaged in apprenticeship training.

The in-service training initiated by the action plan entails two elements: a general element to familiarize teachers and instructors with the broad aims and content of the reform and a more subject-specific element to cater for competence needs in the subject areas concerned.

The in-service training is delivered in two formats: a centralized format and a decentralized format. The latter, used where large target groups are concerned, involves selecting local multipliers for training who subsequently serve as resource persons in delivering the content at local level. The centralized delivery format is used for smaller target groups and caters for teachers and instructors nationwide.

The courses vary in structure and duration, though the majority last five days or 35 hours. Most have been held during working hours during the school year but some have been held during the summer vacation.

The state and the county authorities share responsibility for planning and implementing the in-service training associated with Reform '94, the contribution of the former being centralized coordination of course planning and implementation and the development of teaching materials for both the general and subject-specific elements of the training.

The pedagogic and methodological implications of Reform '94 are considerable. One of the major challenges is to develop teaching methods which are suitable for an entire age cohort, i.e. pupils in both general and vocational education. A further challenge arises from the enhanced importance attached to general subjects in vocational education, with ways having to be found of integrating general and vocational subject matter in a manner which positively relates theory to both the pupils' current interests and their future roles in working life.

To meet these particular challenges, in-service courses on didactics have been organized for teachers in all fields of study teaching foundation and advanced level I courses. The courses were run either as full-time, one-week courses or as part-time courses involving several days of training followed by a return to the classroom for experimentation and then several more days of training.

Approximately 40,000 teachers have participated in the national programme for in-service training associated with Reform '94. Some 20,000 instructors from the corporate sector are attending the training during the course of 1996.

The funding invested in in-service training for teachers and instructors during the implementation period from January 1993 to December 1996 will have amounted to NOK 430,000,000 (ECU 53,750,000) by the end of 1996. In addition the state has allocated approximately NOK 700,000,000 (ECU 87,500,000) for equipment and rebuilding projects.

The statistics provide no breakdown of the funding used for teachers of general subjects and teachers of vocational subjects respectively, nor a breakdown of the numbers of teachers in these categories who have undergone the training.

7.5 In-service training for instructors in apprenticeship enterprises

As the core curriculum also lays down principles to govern apprenticeship, employers who recruit apprentices are having to comply with new requirements in their training provision. The Ministry of Education has therefore initiated the development of a series of training courses in pedagogy aimed at corporate personnel with training responsibilities.

Basic module:	The training context. The company as a 35-hour learning environment. Planning and implementation of training. Instruction and guidance.	
In-depth module 1:	Instruction, guidance and communication	40 hours
In-depth module 2:	Quality development in vocational training	20 hours
In-depth module 3:	Special education	20 hours

These courses are not mandatory, but instructors are requested to participate in at least the basic course as part of the company's quality assurance effort in the training field. Participation in the basic course is financed by the county authority.

A number of other courses on a variety of fundamental aspects of vocational education and training have been developed in cooperation with employers with a view to raising quality and competence levels in companies. These courses differ in terms of duration but most extend over one to five days.

Longer courses qualifying for up to 10 points (quarter-year study programmes organized on a part-time basis) are available for industrial enterprises and persons with training responsibilities. These tailor-made programmes are developed in cooperation with the companies or organizations concerned and focus on competence development.

Akershus College offers several courses on competence development and human resource development. These range from short courses (one day to one week) to a quarter-year, 10-point study programme on training apprentices and colleagues and organizational development in the corporate sector. The programme involves about 120 hours of course attendance plus 100 hours of private study. Subscribers to date include the Norwegian Railway and the Norwegian Postal Administration.

7.6 Concluding remarks

One challenge for the coming years is that of motivating companies to invest time and money in developing and upgrading their pedagogic competence.

Another is to develop and improve the coordination between school-based and work-based training because effective vocational education and training needs a high-competence input from both sectors of society.

Teacher training in future will have to reconcile the needs for:

- enhanced subject competence combined with teaching competence;
- a practice-oriented approach which takes account of classroom needs and the organizational environment;
- the delivery of sound role models;
- modern vocational training principles giving students experience which will be relevant to their own teaching;
- an approach which deepens and broadens the student's personal, human experience.

8 Useful addresses

Confederation of Norwegian Business and Industry
(Næringslivets Hovedorganisasjon - NHO)
P.O. Box 5250 Majorstua
N-0303 Oslo

Ministry of Education, Research and Church Affairs
(Kirke - Utdannings og forskningsdepartementet)
Post-box 8119 Dep.
N-0032 Oslo

Norwegian Institute of Technology
(Teknologisk Institutt)
P.O. Box 2608 St. Hanshaugen
N-0131 Oslo

The Continuing Teacher Training Section of the
Ministry of Education
(Statens Lærerkurs)
Parkveien 8
Post-box 8150 Dep.
N-0033 Oslo

National Centre for Educational Resources
(Nasjonalt Lærermiddelsenter)
Box 8194 Dep.
N-0034 Oslo

National Council for Teacher Education
(Lærerutdanningsrådet)
Parkveien 8
Postboks 8150 Dep.
N-0032 Oslo

Norwegian Teacher Trade Union
(Skolenes landsforbund - SL)
Mollergt 20
N-0181 Oslo

Norwegian Union of Teachers
(Lærerforbundet)
Wergelandsveien 15
N-0167 Oslo

9 Institutions and courses

Colleges offering initial training for vocational teachers

Akershus College
Department of Education for Vocational and Technical Teachers
Campus Bygdøy:Technical and Vocational Teachers
P.O. Box. D Bygdøy
Huk Aveny 56
N-0211 Oslo

Akershus College
Department of Education for Vocational and Technical Teachers
Campus Stabekk:Teachers of Nutrition, Health and Environment
Ringstadbekkveien 105
N-1340 Bekkestua

Østfold College
Remmen
N-1783 Halden

Hedmark College
N-2400 Elverum

Agder College
Tordenskioldsgt. 65
Postuutak
N-4604 Kristiansand

Stavanger College
Postboks 2557 Ullandshaug
N-4004 Stavanger

Bergen College
Lars Hillesgt. 34
N-5008 Bergen

Nord-Trøndelag College
Postboks 145
N-7701 Steinkjer

Bodø College
N-8002 Bodø

Finmark College
Follumsvei 31
N-9500 Alta

University of Tromsø
Department of Teacher Education
N-9037 Tromsø

University of Oslo
Boks 94 Blindern
N-0314 Oslo

Institutions and organizations offering courses for persons with responsibility for vocational training

Akershus College, Department for Vocational and Technical Teachers, campus Bygdøy
University of Trondheim
Bergen College
Agder College
Telemark College
Nordland College
University of Tromsø
Finmark College

Federation of the Process Industry (PIL-Prosessindustriens landforbund)

Educational Council for the Furniture and Woodworking Industry (Utdanningsrådet for møbel-og innredningsindustrien - URMI)
P.Box 2608 St. Hanshaugen
N-0131 Oslo

NKS-Distance Education

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In-service training and further training of teachers in Norway - A short survey. Oslo, July 1993.

11 List of acronyms and abbreviations

AF	Federation of Norwegian Professional Associations
AMO	Labour market training courses
KUF	Ministry of Education, Research and Church Affairs (Kirke, Utdanning -og Forskningdepartementet)
LO	Norwegian Federation of Trade (Landsorganisasjonen)
NCEVTT	National College of Education for Vocational and Technical Teachers
NHO	Confederation of Norwegian Business and Industry (NHO - Næringslivets Hovedorganisasjon)
NKS	Distance education
NOK	Norwegian Krone
NOU	National Commitee Report (Norges offentlige Utredninger)
NTH	Engineering University, Trondheim
VET	Vocational Education and Training

Sweden

1 Introduction

Vocational education in Sweden can be categorized depending on a) the organizing body (e.g. state, council, municipality, enterprise), b) the target group (e.g. pupils or trainees aged under or over 20 years), c) the recipient's socioeconomic situation (employed or unemployed), d) the course position within the progressive national system (e.g. level of examination, certificate), e) the vocational field concerned (e.g. agricultural, economics, health care, technical), and f) the teaching or training personnel (e.g. whether or not these hold formal qualifications). Nearly all initial vocational education in Sweden is delivered in a single school form -upper secondary school-, and consequently the training of most vocational teachers is state-run and provided at university level. And as adult education follows the same curriculum as upper secondary education, many teachers in initial vocational education also teach and train in continuing vocational education and training. The following presents a brief description of the conditions under which initial vocational education and teacher training take place in Sweden (Eurydice 1995; Hunter 1995; SCB 1994a; SCB 1997).

1.1 Geography and population

Geographically, Sweden is part of the Scandinavian peninsula and its northern region extends beyond the arctic circle. In the south, the Gulf Stream makes the climate relatively warm for the country's latitude. Sweden borders the Atlantic Ocean and Norway to the west and the Baltic Sea and Finland to the east. Historical bonds exist between Sweden, Finland, Estonia and Latvia. Geopolitically, Sweden is seen as an important country in the Baltic region.

Sweden has a population of 8.8 million, of whom 6.3 million are currently aged between 16 and 74. The total population will probably exceed 9 million by the year 2000. The Swedish population in general is ageing and the gap between male and female average longevity is narrowing. Statistical studies indicate that males with a higher education have a lower mortality rate.

The national language is Swedish, and for a very long period Sweden remained linguistically and ethnically homogeneous with only two exceptions - the Finnish-speaking population of the northeast and the Sami (Lapps). Today, approximately one million of Sweden's total population are immigrants or have at least one immigrant parent (for clarification: immigrants include citizens from other Nordic countries). Demographic studies show that the 45-49 year-old age cohort is currently predominant on the labour market. The demographic curve also suggests that cohorts in upper secondary education are becoming smaller, but this development will reverse around the year 2010.

In terms of educational attainment level, no major difference is apparent between men and women. This is not the case, however, in terms of fields of study. Men and women are trained for quite different sectors of society.

The intake into compulsory education will increase considerably over the next couple of years as a result of the higher birth rate recorded towards the end of the 1980s and into the early 1990s. Formal education levels are continuously rising in the wake of successive educational reforms and the expansion of the education system in general. There is now a marked difference in formal education levels between the younger and older generations.

1.2 Government, counties and municipalities

Sweden is a representative, parliamentary democracy and could be defined as a constitutional monarchy with a parliamentary form of government. The King is head of state but does not participate in Government. The Parliament is the single-chamber Riksdag composed of 349 members who, since 1994, are elected for a four-year term of office in direct, general elections. The main function of government ministries is to prepare the decisions of the Cabinet, e.g. on matters concerning bills for submission to Parliament, general government directives and senior appointments. The Cabinet only seldom takes autonomous administrative decisions. At the time of writing (1996), power is held by a minority Social Democrat Government, and the following ministers are of special interest for the purposes of this report: Minister of Education: Mr Carl Tham, Minister of Schools and Adult Education: Mrs Ylva Johansson.

Overall responsibility for education in Sweden rests with the Parliament and the Government. With the exception of the University of Agricultural Sciences, which is run under the auspices of the Ministry of Agriculture and training schemes for the unemployed, which are the responsibility of the Ministry of Labour, all education and vocational training falls within the jurisdiction of the Ministry of Education and Science. Overall responsibility for the pre-school sector is held by the Ministry of Health and Social Affairs.

Sweden is divided into 23 counties, each administrated by a county administrative board chaired by a government-appointed governor. Each board additionally has 14 members elected by the county council, which is itself an elected body. Göteborg, Malmö and Gotland are municipalities with no affiliation to any county. The counties' reponsibility concerning education and training is above all a matter of coordination, i.e. ensuring effective cooperation between different educational organizations for specific schemes, for example career advancement schemes or adult education schemes for unemployed youngsters over19 years of age and adults without an upper secondary education qualification. The border line between county council and municipal responsibilities changed recently when the municipalities were made responsible for - for example - health care provision for the elderly. There is an on-going political debate in Sweden which may alter the number of counties before the turn of the century.

Parishes are local units of the Church of Sweden and have the same status in public law as municipalities. The overwhelming majority of the population belong to the Lutheran Church. There is an on-going process to split the Church away from the State.

Local government and the levying of local taxes are based on constitutional rights and are regulated by legislation. Under the provisions of the Local Government Act, Sweden is divided into municipalities with elected councils, the number of municipalities being 288 in 1996. Municipalities are responsible for social welfare, education and culture, public health, town planning, housing etc. Education levels differ substantially from one municipality to another: in some sparsely populated areas about 40% of the population have no upper secondary qualification.

1.3 Politics, commerce and industry

Various 20th century regimes in Sweden have had a strong influence in shaping living standards and organizing tax-funded social welfare systems administered by the state, the county councils and the municipalities. Apart from a six-year interlude (1976 to 1982), Sweden was governed consistently from 1932 to 1991 by the Social Democratic Party either alone or in coalition with other parties.

Social insurance benefits are granted according to uniform statutory principles, and coverage extends to all persons resident in Sweden, regardless of citizenship. All schemes except unemployment insurance have been made compulsory, and benefits are usually income-related. Most social security schemes are currently being extensively debated and reviewed.

Sweden's economic situation has changed during the 1990s in the wake of the recession in international trade, higher unemployment levels and the increase in the national debt during the 1980s and into the 1990s. The expansive years of the 1960s, with their huge construction programmes and new social welfare systems, have now given way to a situation in which the state, county councils and municipalities are trying to reduce their spending - with negative consequences for large sections of the population. The currency is the Swedish Crown, the krona. (1 ECU= 8.89 SEK, March 1997).

Social partners

During the 20th century the social partners, i.e. the Swedish Employees Confederation (SAF) and the Swedish Trade Union Confederation (LO), have had a major impact on regulating the labour market. After World War II, the social partners invoked the so-called "spirit of Saltsjöbaden", and many decisions thereafter were taken on the basis of a kind of "harmony" between the partners. Today, the situation is different. In December 1994 the Swedish Trade Union Confederation had 21 member unions with a total membership of 2,230,490, and the unemployment rate was 7.3%. Since then unemployment has risen and is now seen by the Government as the most important economic problem. In 1994 the Swedish labour force numbered 4.27 million people, of whom 3.93 million were in employment. The sectoral breakdown of employment was as follows: 1.6 million in service industries; 0.8 million in mining, manufacturing, electricity and water services; 0.6 million in trade, restaurants and hotels; 0.4 million in finance, insurance, real estate and business services; 0.3 million in transport and communications; 0.2 million in construction; 0.1 million in agriculture, forestry, hunting and fishing. In the same year, the public sector accounted for more than 40% of total employment.

Natural sources

Sweden is rich in hydroelectric power resources, is a leading producer of iron ore, and Sweden's forests are one of the country's greatest natural assets. Sweden has an area of 449,964 km^2 and in 1992 forests covered 23,232,000 ha. 37% of the forests are in state or municipal ownership, 13% are owned by companies, and the remaining 50% are privately owned. The most important fields of manufacturing are metal production, metalworking, and machinery and transport equipment manufacture, which account for almost one half of the total value-added generated by goods manufacturing. Production of high-quality steel is a traditional speciality. Another important field of manufacturing is based on forest resources and includes sawmills, plywood factories, joinery industries, pulp and paper mills, wallboard and particle board factories. A rapidly expanding sector is the chemicals industry, especially petrochemicals.

Infrastructure Extensive infrastructure projects involving roads, railways, civil aviation, shipping and telecommunications have made it possible to cope with the problems raised by the vast distances between the northern regions, where many of the natural resources are located, and the densely populated areas in the southern part of the country which is home to over 80% of the population. Recently extensions have been added to the mobile telecommunications network, and information technologies have become an important instrument in education, e.g. in distance learning.

EU-member During the 20th century Sweden has moved away from being a predominantly agrarian nation towards mining and shipping as ancillaries to industrialization and the export of refined, natural-resource-based products and knowledge-based services. Today Sweden is a member of the EU and is dependent on the global production and trading operations of its multinational companies, e.g. ABB, Astra, Borealis, Electrolux, Ericsson, Hasselblad, SAS, SCA, SKF, Volvo and many more. Studies on the future labour force and its distribution suggest that the knowledge-generation sector (50%) together with the service sector (40%) will become dominant by 2010 as the goods production sector declines (10%). Challenges to vocational education are in view for the near future. Occupations which were previously clearly defined have now become diffuse, and new occupations are emerging for the "information society".

1.4 The education system - an overview

Sweden's public-sector school system (Eurydice 1995; Skolverket 1995) consists of compulsory education and various types of voluntary education. Compulsory education covers compulsory basic schools, Lapp nomad schools, special schools (for children with impaired vision, hearing or speech) and schools for the intellectually disadvantaged. Voluntary education covers upper secondary schools, upper secondary schools for the intellectually disadvantaged, municipal adult education and education for intellectually disadvantaged adults.

Principles One fundamental principle of the Swedish education system is that everyone must have access to an equivalent education, regardless of ethnic or social background or place of residence. This principle is laid down in the Swedish Education Act. Adults are likewise entitled to education under this Act, be it in the form of regular municipal adult education (komvux) or adult education for the intellectually disadvantaged (särvux).

Comprehensive education Compulsory and upper secondary education are both comprehensive, designed to accommodate all members of the younger generation and conforming to a national curriculum. All public-sector schooling is free of charge, and it is generally the case that neither pupils nor their parents incur any expenditure from schooling, for example, for learning materials, health care or school transport. Cost-cutting crusades by municipalities, however, are now calling these principles into question, and some municipalities are already cutting school meals out of school budgets.

Adult education

Public adult education in Sweden has a long history, and many further and continuing education oppportunities are available in a variety of formats throughout the country. Adult education equivalent to that delivered in compulsory and upper secondary education is part of the public-sector school system. The education system in Sweden is thus structurally uniform from elementary through upper secondary to adult education level.

Through the 1991 state reform of adult education, Sweden obtained both a new academic school track for upper secondary education and a reformed system of adult education. The principal intentions of the reform were to harmonize upper secondary and municipal adult education. In the so-called "Knowledge Bill" of 1991 (Prop 90/91), it was stated that the three main functional pillars of municipal education dating back to the 1960s were still relevant: i.e. (a) bridging the education gap in society, (b) providing youngsters with the possibility of attaining the youth education standards, and (c) raising levels of competence within the labour market. Since 1992 the state has further endeavoured to safeguard implementation of these objectives by enabling educational organizations to devise competence-targeted education.

Municipal adult education covers three main fields of activity:

- basic adult education;
- academic secondary adult education;
- further education.

Basic adult education aims at bridging the education gap between young and old in society by targeting the levels of competence normally attained today through compulsory schooling. It therefore meets general educational standards and provides a foundation for further study. Academic secondary adult education aims at developing competence equal to that attainable in upper secondary education and thus seeks to mirror the standards of competence provided in state academic secondary schools. Finally, further education is defined as vocational education and training which leads to higher occupational competence at a level below that of higher education.

Municipal councils are legally obliged to provide basic adult education for all citizens whose educational level is inferior to that delivered by today's compulsory comprehensive schools. With regard to the other two categories of adult education, here municipal councils are required only to make appropriate facilities available.

Municipal adult education is now available in almost all municipalities. An overall survey of the provision reveals that the majority (65%) of the students are women, and that age-wise students under 24 account for one third of students, those between 25 and 35 another third and those over 35 the final third, though some variations do exist here between the three fields of activity.

Higher education

Higher education includes universities and university colleges, most of which are publicly run and a few are independent. The state institutions are the universities of Uppsala, Lund, Göteborg, Stockholm, Umeå and Linköping, the 15 university colleges in different parts of the country and some single-faculty institutions, e.g. the Karolinska Institute, the Royal Institute of Technology, the Stockholm Institute of Education and the University College of Physical Education and Sports. There are also seven smaller university colleges in Stockholm for various areas of the arts. Operating under the auspices of county councils are twenty-six colleges of health sciences which prepare students for careers in paramedical professions. State-run universities and university colleges are regulated by central government agencies, and their employees are civil servants.

Regulations

Providers of the education regulated by the Ministry of Education and Science are the state, county councils, municipalities and private organizers. Curricula, national objectives and guidelines for public-sector schooling are determined by the Parliament and Government. The national budget includes grants to the municipalities for their various educational operations. Subject to the framework and objectives defined by the Parliament and Government, each individual municipality is at liberty to decide how its schools are to be run, but an education plan does have to be drawn up for the community describing how school activities are to be funded, organized, developed and evaluated.

The head teacher of each school is required to draw up a school work plan based on the curriculum, the national objectives and the education plan. This responsibility must be discharged in consultation with teachers and other staff. The school or academic year normally begins at the end of August and ends early the following June, which makes a total of about 40 weeks. Schools have a five-day week, from Monday to Friday, and just over a fortnight's holiday in winter from about 20th December to the beginning of January.
Skolverket, the National Education Agency, has the task of developing, evaluating, following-up and supervising public-sector education in Sweden. The Agency is required to submit to Parliament and Government a comprehensive report on the state of Swedish education at three-yearly intervals. These reports form the basis for a national development plan for schools. A further duty of the Agency is to monitor schools for compliance with the provisions of the Education Act and respect for the rights of the individual pupil.

Pre-school education

It is the duty of the municipalities to organize pre-school activities for all children from the year of their sixth birthday. Arrangements vary from one municipality to another, for example, activities may be located at and coordinated with an ordinary school, or they may be linked with some other field of municipal child-care services.

Compulsory education

Nine years of basic schooling is compulsory for all children between the ages of 7 and 16. Depending on admissions capacity and parental preference, children have the option of starting school at six years of age. As from 1st July 1997, it will be the duty of municipal authorities to provide places in school for all six year-olds. Most children attend a municipal school near their homes, but pupils and their parents have the right to opt for a different municipal school or for an independent school.

About 1% of pupils in compulsory basic education (roughly 10,000) attend one of the 200 or so independent schools which have so far (1993) obtained Government approval for operation. Independent schools are open to all comers but must be approved by the National Education Agency. They receive municipal grants based on the number of pupils per school year and are additionally entitled to charge reasonable fees. The instruction in independent schools has the same goals as that in municipal schools. Independent schools usually have a distinct profile, and some are based on particular educational principles, such as those of the Montessori or Waldorf methods. If an independent school fails to comply with the provisions of the Education Act, the National Education Agency can withdraw its approval, just as it can withdraw the school's public grant if the fees charged are considered excessive.

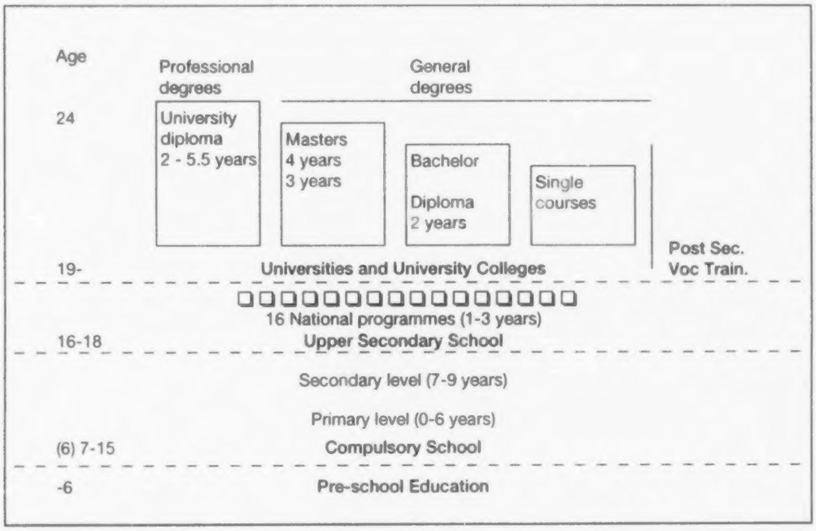

Figure 2: Simplified chart of the Swedish education system.

In school year 1994/95, 953 Swedish pupils were attending Swedish compulsory schools abroad, of which 524 were located in Europe.

Upper secondary education

More than 90% of all pupils proceed from compulsory education to upper secondary education, and in the early 1990s nearly all these post-compulsory pupils completed their upper secondary education within four years. Upper secondary education is divided into 16 three-year national programmes, all of which intended to provide a broad-based education and confer a general eligibility for higher education. In addition to the national programmes, there are also specially designed individual programmes. The number of pupils attending individual programmes -because of poor attainment levels- has increased in recent years. The individual programme serves as a foundation for subsequent attempts to keep pace with standard national programmes.

Post-compulsory independent schools are of two types. Firstly there are those which correspond to municipal upper secondary schools, i.e. offer upper secondary study programmes and receive municipal grants. Secondly there are those which offer a curriculum supplementing mainstream upper secondary education. Art colleges and craft schools are examples of this second category.

International schools

Sweden also has a few international schools. These are state-aided and cater for children of foreign nationals residing temporarily in Sweden and also for Swedish children who are domiciled abroad but have brief periods of residence in Sweden.

Municipal adult education

Young persons remain entitled to enter upper secondary education until the age of 20. After this they can choose between various forms of adult education, one such being municipal adult education (Komvux). The Komvux programmes are at two levels: one corresponding to compulsory education and the other corresponding to upper secondary education. In 1994, a total of 146,474 persons were attending municipal adult education courses: 36,644 of these at compulsory education level; 104,609 at upper secondary level; and 5,221 trainees attending courses at vocational education level.

Since the foundation of the municipal adult education system in 1968, vocational education for adults has been developed in accordance with guidelines established primarily for upper secondary education. Since the 1993 reform of upper secondary and adult education, both types of education have had the same course structure for all their subjects. This facilitates cooperation between different school types and thus enables municipal councils to offer a broader range of adult education opportunities.

Whereas the vocational provision within municipal adult education traditionally targeted mainly economics, commerce, health care and social services, today adults also have the possibility of undergoing a technical education at upper secondary level.

Further education aims to develop and upgrade competence for an existing or new occupation. Its courses are intended for both adults with work experience and youngsters holding an upper secondary qualification. Examples of further education courses include IT, construction technology, industrial technology and electronics. The courses are designed after consultation with representative sectoral bodies, and some course elements are delivered at the workplace. The common entrance requirements for all courses are the equivalent of three years of upper secondary education, including in Swedish, English and ordinary mathematics, plus an appropriate amount of vocational enrichment.

Other post-compulsory education

Sweden has traditionally made extensive provision for continuing vocational education - a fact recently documented in a national report published by the Ministry of Education and Science (1994). Besides municipal adult education there are also other types: "folk" (the people's) high schools, education associations, national adult education centres (SSVs), and education and training schemes for workers and the unemployed. About one half of the adult population participates in some form of adult education. Some "folk" high schools are public institutions (often run by the county council), others are run by other bodies, e.g. the Free Churches, trade unions, or temperance movements. Education associations include the Citizens' Adult Education Association, the Centre for Business and Policy Studies, and the Adult Schools' Educational Association - to mention but a few. "Folk" high schools offer long-term courses in general studies or special subjects, e.g. handicrafts, foreign affairs, journalism. Lately there has been an increase in the number of enrolments for such special courses. "Folk" high schools also provide vocational training.

Supplementary adult education offers vocational courses which are not available in youth education and which lead to a qualification level higher than that of secondary education. National adult education centres (SSVs) can be seen as complementing municipal adult education insofar as many of their programmes are vocational and are delivered in distance learning format.

Labour market integration schemes

Previously part of the labour administration, the AmuGroup (literally: the labour market training group, i.e. the section responsible for the organization and delivery of vocational education and training programmes) became a self-funding authority in 1986. In 1993 it was converted into a government-owned group of companies comprising a parent company and nine regional companies with 40 market areas and 135 training centres, plus a subsidiary company, AmuHadar, which specializes in training for disabled persons. The AmuGroup is to undergo a further major organizational change in 1997.

In 1994 the AmuGroup had a turnover of slightly over SEK 3 billion and held courses amounting to more than five million participant days for some 2% of the Swedish workforce. Fierce competition on the market for labour market training, corporate training and rehabilitation training, however, is now exposing the AmuGroup to new pressures. Its owner, the state, is expected to issue directives for future development towards the end of 1996.

Post-secondary education

Almost one quarter of all upper secondary graduates proceed to higher education within three years of leaving school. Universities and colleges offer both full higher education courses and less extensive, self-contained programmes.

Higher technical vocational education is a three-semester university course aiming to develop a broader and deeper understanding of a particular vocational field. Courses at this level are available in, for example, mechanical engineering, woodwork, electronic engineering, construction, graphics and manufacturing technology.

Recent developments

A bill put before Parliament in the spring of 1994 proposed establishing a post-upper-secondary education track which would be specifically vocational rather than academic. In 1995 a report was published on so-called "Qualified post-secondary vocational education" (SOU 1995:38), on the basis of which pilot programmes were launched in the autumn of 1996. The concept involves education programmes delivered in cooperation with so-called "centres of excellence", municipal adult education, labour market integration training and higher education, and the educators may be lecturers from universities or teachers/educators from the municipal adult education sector or from the corporate sector. The admission requirement is an upper secondary qualification or equivalent. The programmes are intended to develop more extensive or more specialized vocational competence, but as a step towards - rather than completion of - a final qualification. Basically, the concept involves the practical application of state-of-the-art expertise and technology with a view to enhancing prospects of placement on the labour market.

2 Initial vocational education and training

Most vocational education in Sweden is delivered to youngsters at public-sector upper secondary schools. In some cases, however, e.g. in labour market integration training, it also involves adults and is delivered via other institutions. Swedish vocational education has traditionally aimed to integrate three types of knowledge and skills: practical work techniques, occupational and practice-oriented theory, and general competence in the form of general knowledge.

2.1 An historical view

Seen from the historical viewpoint, many national and international factors have influenced Sweden's education system, its tradition of curriculum development and the status of its vocational teachers (Nilsson 1981; Richardsson 1990). When upper secondary education was expanded during the 1950s, the policy-makers were fully conscious of the country's need for well educated civil servants. Later, it was seen to be in the general national interest and in the interest of society at large to educate a large proportion of the population to upper secondary level. Moving away from a tradition of system diversity, independence and local responsibility, policy-makers have since concentrated on developing a coherent public education system bestowing on all youngsters an entitlement to proceed to upper secondary education. This vision took shape in the 1990s with the implementation of 16 national programmes, of which 14 have a vocational focus (see Table 1 below).

Situation at the end of the 20th century

Until the early 1970s Sweden had three parallel tracks in youth education: three-year upper secondary school, two-year secondary continuation school and vocational school. In 1971 these were merged to form a single track, the so-called gymnasieskolan. The vocational sector of this new form was also transformed into a two-year programme. Emphasis in the reformed curriculum was placed on general subjects such as Swedish and civics. In the wake of the 1971 structural reform, upper secondary teachers (adjunkter) took over full responsibility for teaching academic subjects to pupils in vocational education - a move which received written endorsement even from the vocational teacher union. Previously, some academic instruction had been provided by vocational subject teachers as the Royal Board for Vocational Education and Training had been entitled to certify vocational teachers for academic subject teaching, provided they fulfilled certain qualification requirements. Reformed upper secondary education thus provided a mainstream programme, but this was supplemented by many special courses of varying duration. In 1975 yrkes-tekniska högskolan (YTH), i.e. higher technical education, was established to meet the developing need among skilled employees for higher education qualifications in technical subjects.

Focus on vocational education

In the late 1960s a new approach was adopted which represented a departure from the perspectives and methods advocated hitherto. Its consequences were the shelving of integrationist aspirations for combining vocational and academic content, greater content fragmentation and more pronounced specialization. By the mid-1970s this partially new orientation was clearly visible. Vocational education was seen by Government as an integral part of a general mechanism for full employment, and strong pressures were exerted for more vocational education provision. Even students who attended academically-oriented schools were encouraged to study vocational subjects. The main political idea underlying this pressure was a desire to raise students' prospects of finding employment.

Convergence at higher level

It is also of interest to note that in 1977 virtually all post-secondary education, i.e. all university-type education plus non-academic vocational college education and training, was incorporated into a single system - the so-called högskolan. It had become apparent that many pupils in the vocational streams of secondary education were not achieving satisfactory attainment levels, a fact which was frustrating the political effort to break down traditional social structures by giving young people from the lower social classes access to higher education. The corresponding unexploited talent remained a problem issue for education policy.

Preparations for upper secondary reform

Upper secondary education was expanding annually throughout this period, particularly its vocational sector. In 1984/85 some 76% of the 104,800-strong upper secondary intake enrolled on some type of vocational course. At the same time, the curricula became more fragmented as a number of special courses were introduced alongside the established programmes. Following a status evaluation, it was suggested that the programme should be extended from the then two years to three years. This extension provided additional leeway for more general study rather than specifically vocational study and also allowed for an expansion of workplace-based experience. It was hoped that the latter would encourage the business community to show a stronger commitment to the vocational education being provided at schools.

In the late 1980s vocational education pilot programmes were run to identify ways of making curricula more flexible (modularization) in order to respond to the greater flexibility observed in working life during the 1970s and 1980s. Vocational streams at secondary level were criticised for not developing the core skills which would be needed on the labour market in future. These streams had been designed on the assumption that, with some core skills covered in each vocational area (the so-called core skills code), youngsters would be able to apply these skills to meet specific workplace demands if supported by continuing on-the-job training. The pilot programmes shifted the emphasis towards a so-called "service code" aiming to respond effectively to rapidly changing skill requirements.

Demands on vocational education had changed, and pupils needed a fuller training during their school years. It was believed that a modular system could perhaps generate the competency profiles needed, and vocational education was made a three-year course of study.

Labour market training in transition

Towards the end of the 1980s the basic premises governing labour market training were reformed. Henceforth, universities, university colleges, upper secondary schools, municipal adult education and private enterprise were all allowed to deliver labour market training schemes under the same conditions as the AmuGroup, whose share of the market has since declined steadily: from 90% in the late 1980s to 50% in 1994. The AmuGroup is to undergo a massive reorganization in the course of 1997.

Reformed upper secondary education

Vocational education was extensively reformed in the mid-1990s with the creation of 16 new, national three-year programmes. The main features of the reform are described in the government bill entitled "Growing with knowledge" (Växa med kunskaper: Regerings Proposition 1990/91: 85). The purpose of the reform was to raise the general level of education throughout society and prepare all citizens for lifelong learning, for a time when for most people recurrent learning will be the rule rather than the exception. The three educational tracks dating back to the 1960s have since been merged into a single school system for all young people, to the effect that educating for the labour market can now be described as a vocationally oriented but integrated component of the general public education system.

Concluding remarks

- Vocational education and training.
  If the 1960s education policy can be said to have established a primarily practical orientation in vocational education and training and their content, the trends observed more recently are pointing in quite the opposite direction - with strong implications for the future. The traditional borders between vocational and academic education have become obscured but new profiles are emerging. Through pilot schemes in the so-called "qualified post-secondary" sector, the social partners and industries have begun to create new education tracks. Great hopes were placed in the so-called "national knowledge uplift", which was intended to create platforms of opportunity for a vast number of adults to commence upper-secondary-level studies in mathematics, Swedish, English and social studies.

- Teacher education and training.
  The disconnection in the early 1970s of the links between general subjects and vocational theory created major difficulties in terms of pedagogic possibilities for generating a holistic view of vocational education. Obvious links between different fields of knowledge and distinct possibilities for integrating the teaching of English, mathematics and social studies into vocational and technical education were shattered by the way in which responsibility was allocated for the various areas of the curriculum. The disintegration of these areas has perhaps been one of the most influential trends from the vocational teachers' perspective. However, with the present changes to examination regulations and the introduction of the two-subject specialism again enabling vocational teachers to obtain the right to teach core subjects, it may well be that steps are now being taken to facilitate the development of a constructive form of subject integration in vocational education curricula. The expanded subject teaching entitlement, however, is associated with a requirement that the vocational teacher obtain a 60-80 credit university education in the academic subject concerned, a requirement which for many is not easy to meet for educational, social and economic reasons.

2.2 Initial vocational education today

In 1970 initial vocational education and training (IVET) became part of upper secondary education during an integration process leading to a uniform education system (Hjort 1994). Responsibility for initial vocational training, e.g. curriculum planning and national evaluation, rests with the national education authorities. In such a school-based education system, the role of the social partners is mainly advisory at national level; at municipal level advice is sought from local training councils. In 1993 Sweden had a total of 641 upper secondary schools, of which the majority are publicly run. Only 2% of pupils attend independent private schools. In the spring of 1994, only four independent industry-run schools had been authorized by the Government to provide training: Volvo / Skövde, ABB / Västerås, ABB / Ludvika, and SKF / Göteborg. Independent schools are required to adhere to the national curriculum.

Municipal responsibility

Every municipality is obliged to offer all young people up to 20 years of age the possibility of embarking on one of the 16 national programmes which they are required to implement themselves or in cooperation with another municipality. As a rule, pupils start the programme at 15 or 16 years of age. Over 90% of pupils proceed directly from compulsory education to upper secondary education.

Since the 1992 autumn term, a new modular type of upper secondary education has been being introduced in which all programmes extend over three years. Most municipal authorities had implemented the first year of this new type by autumn 1993. It offers 16 national programmes (with 34 national options), plus individual and specially designed programmes. Each programme consists of a number of courses, i.e. modules.

National programmes

The national programmes have a core curriculum which consists of Swedish, English, civics, religion, mathematics, natural sciences, sports, health care, and art. Each programme additionally has so-called "character subjects" which give it its specific profile. The reform includes an ambition to expand education at the workplace (15% of total time), to promote modular upper secondary education and to expand municipal authorities' responsibility for offering programmes and courses in accordance with pupils' choices. The political intentions here are to remove both the old system of parallel (academic versus vocational) study and the traditional cul de sacs which denied some pupils access to further education.

Differentiated programmes

In 1993, 85 schools were offering only individual programmes, and in 1994 Statistics Sweden (SCB) reported that 12,534 pupils were attending such programmes. Individual programmes are intended to prepare pupils for one of the national programmes (e.g. via tailor-made courses, practice and apprentice programmes, alternative study-pace programmes) and to lower the pupil drop-out rate. Any young person who, for whatever reason, has either not been admitted to or not tried to enrol on a national programme must be offered a place on an individual programme. In the case of apprentice programmes, the enterprise is responsible for the part of the curriculum which is covered at the workplace while, under the provisions of the current School Act, the school is responsible for the core subjects. In apprenticeship training these are Swedish, English, religion, civics and mathematics. Pupils have the right, if they wish, to take more subjects than those listed. Specially designed programmes can include parts from different national programmes (e.g. a combination in the civics option of economics and business and administration).

Table 1: Upper secondary education: 16 national programmes and branches.

National programmes	National branches	Specialization
Child recreation (7%)		Different profiles available through choice of courses: child and school child care, culture, adult education and library services, recreation centres and social/leisure activities, establishment, management and administration
Construction (3%)	Structural metal work Building and construction Painting	Possibility of specialization within each branch
Electrical engineering (5%)	Automation Electronics Installation	Possibility of specialization within each branch

National programmes	National branches	Specialization
Energy (1%)	Energy Shipbuilding Heating, ventilation and sanitation	Possibility of specialization within each branch
Arts (4%)	-	Possibility of specialization: Dance and theatre, Art and design, Music
Vehicle engineering (4.3%)	Aircraft engineering and maintenance Motor mechanics Coach work Transport	Possibility of specialization within each branch
Business and administration (6%)	-	Different profiles available through choice of courses: Administrative and economic professions, Commercial professions, Tourism
Crafts (1%)	-	Different profiles available through choice of courses in second and third year e.g. Boat building, Florist, Hairdressing
Hotel, restaurant and catering (4.1%)	Hotel Restaurant Catering	Possibility of specialization within each branch
Industry (3%)	Industry Process industries Textile and clothing Manufacturing Woodwork	Possibility of specialization within each branch
Food (0.7%)	Baking and confectionery Fresh and cured meats	Possibility of specialization within each branch
Media (2%)	Information and advertising Graphic media	Possibility of specialization within each branch
Natural resource use (2%)		Different profiles available through choice of courses: Agriculture, Forestry, Horticulture, Fishing and water conservation, Animal husbandry
Natural science (16%)	Natural science Technology	Possibility of specialization within each branch
Health care (5%)	Health care Dental care	Possibility of specialization within each branch
Social science (26%)	Economics Humanities Social Science	Possibility of specialization within each branch
Individual programmes (9%)		
Specially designed programmes (0.9%)		

The figures shown for each national programme indicate the percentage of pupils in attendance. Source: SCB 1994b.

Practical training

In 13 of the national programmes workplace education is compulsory. This is syllabus-guided training carried out at a workplace outside the school. Since 1994 it has been possible for municipalities to conclude agreements with organizations of industry and commerce on providing education in the following subjects: economics, arts, and technical and vocational subjects.

Education Act

The fundamental aims of municipal education are stipulated in the Education Act. The Education Act also sets out provisions governing pupil rights and the obligations incumbent on municipal and county councils.

The national school curriculum regulates the activities of the school and responsibility for the different elements thereof and specifies what such responsibility entails. The curriculum for upper secondary education (Lpf 94), also formulates school ethics, aims and guidelines. The curriculum is enacted in legislation by the Government after the latter has informed Parliament of the reasoning and values on which the curriculum is based.

The Government also formulates programme objectives to complement the curriculum. There are presently 16 national programmes with 16 sets of simultaneously formulated programme objectives. One of the main purposes of programme objectives is to provide guidance for the detailed work involved in formulating, interpreting and implementing syllabuses.

Course syllabuses are formulated by the Government and the National Education Agency and are likewise intended to complement the curriculum. There are two types of syllabus, one for the core subjects (Swedish, mathematics, English and social studies), which is formulated by Government, and one for the other main subjects (e.g. in the vocational component), which is formulated by the Agency. The syllabuses also specify the knowledge which pupils must have acquired on completion of the programme in so-called knowledge attainment targets, and additionally the Agency specifies examination criteria to serve as guidelines for teachers in grading pupils' work.

Qualifications

Grades are awarded in both upper secondary and municipal adult education on the basis of a four-level scale: fail, pass, pass with distinction, and pass with excellence. The purpose of this scale is to indicate the extent to which the learner has attained the standard specified in the course syllabus. Pupils/students are expected to prepare and submit a special study assignment which serves as a foundation for the grading. The final grade is awarded on completion of all programme modules.

Trade associations, trade unions and vocational training

Initial vocational training for some skilled occupations can alternatively be delivered outside the public education system. A number of guilds, e.g. of watchmakers and goldsmiths, operate their own vocational training leading to the journeyman qualification. Trade associations and trade unions also provide vocational training for their members, though their IVET activities are of only minor importance within the overall system.

Labour market integration training

Municipalities are responsible for promoting the education of all young people under 20 years of age and offering them some kind of educational opportunity. Some young people try to find work directly after completing compulsory education, others drop out of upper secondary education. Those who are unemployed are offered so-called labour market integration training, which often has a strong vocational component. The social insurance institution and the employment agency can commission the county council, the AmuGroup, KomVux, education associations, etc., to run such courses. These can also be regarded as initial vocational training. The difficulties encountered by young people in finding steady employment have also led to the provision of services such as occupational guidance and trainee work.

3 Teachers and trainers in initial vocational education and training (IVET)

Drawing on the structure of employment, this description distinguishes between a) teachers in upper secondary schools; b) trainers and instructors in public and private organizations responsible for training employees and trainees undergoing practical workplace training; c) educators employed in labour market training schemes, i.e. vocational training for unemployed persons and persons whose jobs are at risk; and d) educators who are entrepreneurs or employees in the business of providing education and training services or who are employed in schools, colleges or universities and are engaged in selling courses. The last two categories (c and d) are of only minor importance in IVET.

3.1 Teachers and trainers

Teachers in IVET

In 1993/94 Sweden's education system employed a total of some 130,000 teaching staff. For the same year, Statistics Sweden (SCB 1994b) reports 30,000 teachers in upper secondary education, of whom 93% were in active service (i.e. excluding temporary staff and staff on full-time leave). Some 10% of the total figure were reported to be uncertified teachers. About 12,000 teachers were teaching in the IVET sectors of compulsory and upper secondary education.

Subject area:	1993/94	1994/95	1995/96
Electrical engineering	1,072	1,000	929
Economics	840	874	852
Business and administration	840	845	836
Vehicle engineering	746	765	778
Natural resources	770	775	776
Industry, workshop trades	886	743	708
Building and construction	830	712	690
Restaurant, catering	434	467	536
Technology	571	523	454
Handicraft	383	345	324
Woodwork	160	143	144
Food	148	155	140
Energy, maintenance	147	131	126
Textile and clothing manufact.	96	83	75
Process industry	68	56	43

Table 2: Development of the number of teachers of vocational subjects (members of Swedish Teachers Union).

A survey conducted by SCB in 1992 showed that vocational teachers employed in upper secondary and public adult education had - and were expected to sustain - a high rate of retirement both for age and non-age reasons. The same situation was also found to be increasingly typical of vocational teachers in the trade and administration sectors. In the mid-1990s it was expected that the need for teachers would increase due to expanding age cohorts and longer upper secondary programmes. The extrapolation made on the basis of the survey suggested that a balance between anticipated teacher demand and the graduate numbers from teacher training programmes would be struck by the year 2000. Since, however, no evaluation of the new national modular education system had been carried out at that time, it seems reasonable to cast doubt on the validity of this forecast.

New functions are emerging in the wake of the system reform, e.g. teachers giving study guidance or fostering contacts with private organizations to arrange for workplace education. In 1994 a government commission submitted a report on qualifications for teachers of vocational subjects (SOU 1994:101). The survey findings presented therein, reflecting a statistical universe of 1,000 vocational teachers surveyed in 1993, showed that 90% were in active service, only 46% had an upper secondary qualification, and 45% had not pursued their non-teaching occupation outside school since becoming vocational teachers. The commission also drew attention to the high average age of vocational teachers, the low level of theory qualifications among teachers of industry and craft subjects and the low rate of workplace practice, and concluded that developments taking place in out-of-school working life are placing new demands on vocational teachers. The report also observed that post-reform curricula are much broader, and that modular upper secondary vocational education calls for highly developed skills in cooperating both with other vocational teachers and with teachers of general subjects. The commission suggested that aspiring vocational teachers should be qualified to higher education / university level (corresponding to 80 credits) before being admitted to basic vocational teacher training. Lundborg (1995) gives a brief summary of the report in English and examines some anticipated consequences for the training of vocational teachers.

Trainers and instructors in IVET

Describing trainers working in enterprises is problematic because no reliable statistics are available. A grey zone exists here insofar as staff from out-of-school organizations can be engaged to run courses forming part of the national vocational programmes, but these persons' main functions are usually supervisory in relation to manufacturing processes, etc. The head teacher of an upper secondary school has the right to engage persons for in-school training purposes who do not hold a vocational teaching qualification. This category of teacher is expected to expand in future as municipal education authorities try to minimize their personnel costs.

Under the reformed system, 15% of pupils' total study time is to be spent at a workplace. This requirement places high demands on trainers in business organizations because the curriculum is geared not to company operations but to work-related education and training (both theory and practice). There are strong indications that this part of the reform is causing problems in some programme options, e.g. electrical engineering / installation, media. In small and medium enterprises, it is only seldom that personnel are exclusively detailed to training duties, the more usual case being that the foreman takes on this responsibility. Some possible complicating factors here are that instructors may be specialists in their field but lack training in practical pedagogy, that trainees undergoing workplace training may be seen as a burden, and that organizations derive no economic benefit for their involvement in providing training.

Limited career possibilities

Career possibilities for vocational teachers in upper secondary education are limited. This problem was addressed in a 1993 government bill which stressed that municipalities should offer teachers opportunities for career and competence development and proposed that municipalities employ teachers with a doctorate qualification. For most skilled workers who are potential vocational teachers, such a long study programme would be very arduous to complete.

Salaries are relatively low and the government-sponsored financial support for students has been reduced. Furthermore, the special study support for adults has been withdrawn and student teachers have to finance their studies via study grants and loans. From the lifelong perspective and and also an economic viewpoint it could be questioned whether doctorate study for vocational teachers is a viable proposition.

3.2 Teachers and trainers in continuing vocational education and training (CVE&T)

Sweden has traditionally been highly active in the field of continuing vocational education - a fact documented in a national report published by the Ministry of Education and Science (1994). The teachers and trainers contracted for CVE&T can be classified in two distinct categories.

Teachers in CVE&T

The basic training in pedagogy differs here depending on where the teacher is employed and where he/she undergoes training. Whereas teachers in "folk" high schools can be employed on the basis of a university degree, those in higher education are expected to have more advanced academic qualifications, e.g. be qualified to the level of lecturer, senior lecturer, or professor. Qualification demands in other sectors of CVE&T, however, are currently less clear. A commission of enquiry report (SOU 1995: 38) called for both teaching experience and out-of-school work experience to be made eligibility criteria, and despite the negative response from bodies to which the proposed measures were referred for consideration, pilot studies in this respect were launched in autumn 1996. No information is currently available on the extent to which teachers' qualifications comply with the commission's proposals.

Trainers, instructors and educators in CVE&T

Every third person on the Swedish labour market was involved in some form of employer-funded training during the first six months of 1996 (SCB 1996), the average training duration being 6.1 days/year. The most common topics for competence development were workplace orientation (16%), business economics (11%), technology (11%) and data processing (19%). Most courses were organized by the employer.

As already mentioned, no comprehensive description of trainers in business organizations is available. Training personnel are usually recruited internally and are expected to draw on their existing occupational skills and supervisory experience in their training duties. It is not possible to estimate the number of persons involved in this type of work.

The AmuGroup gears its commercially marketed adult vocational education provision to specific needs. About 75% of its income from course programmes is generated by the following subjects: industrial and mechanical engineering, electrical engineering and electronics, restaurant and catering industry, data processing and computer technology, and economics. In quantitative terms however, the bulk of AmuGroup's courses have a vocational bias and are geared to persons whose position on the labour market is vulnerable.

Recent developments

Lately there has been a shift in emphasis from basic knowledge and skills at compulsory and upper secondary level towards vocational subject theory for application in more highly skilled occupations. The number of AmuGroup trainers has fluctuated over the past ten years, reflecting the changing situation on the labour market and in particular unemployment rates. In 1996 the number of full-time trainers on the payroll was about 3,500. The AmuGroup determines its own staff training needs and runs its own training of trainers courses: e.g. basic training, further education courses (in cooperation with the University College of Växjö), and distance education programmes. As mentioned above, the AmuGroup is now undergoing reorganization and it is expected that its staffing numbers are to be cut.

4 Regulations governing teachers and trainers

4.1 Initial teacher training for public-sector education

Regulations

Municipalities are obliged to hire qualified teachers, and head teachers are responsible for selecting the appointee. Most employment contracts are for full-time service. To become a vocational teacher in public-sector upper secondary education, the candidate must fulfil one of the following requirements: a) hold a Swedish initial teacher training qualification (or its Nordic or EU equivalent) largely relevant to the syllabus of interest, or b) hold a higher education qualification recognized as equivalent to a) above by the National Education Agency. The Education Act also requires that teachers have full command of the Swedish language.

Municipalities also have the option of procuring education packages from contract organizations providing education outside the school system. Teachers and trainers employed by such organizations are not required to hold the initial teacher training qualification mentioned above but they should be highly competent in the subject matter in question.

Agreements between the social partners

Vocational teachers are employed by the municipal council, usually on a full-time basis with a total service time per year of 1,767 hours, of which 1,360 are spent at school. Vocational teachers thus spend about 35 hours per week at school. This time budget covers planning, teaching, training, tutoring, administration, etc., but not the time spent on acquiring training places in industry. Teachers should have access to an office at school. A typical service schedule might be as follows.

Teaching	648 h
Counselling	407 h
Competence development	104 h
Other duties (e.g. extra-curricular, admin., pastoral care, school development)	608 h

Table 3: Example of a vocational teacher's annual service schedule.

It is not common for vocational teachers to combine part-time service in upper secondary education with an enterprise function in the traditional vocational sectors, though this is less true in the media, hotel and catering and handicraft sectors.

Organizations

The head teacher decides together with the teaching staff how school operations are to be organized. A national agreement between the employers' and employees' organizations has made it possible for salaries to be negotiated individually. The criteria applied here usually include the following but also leave room for "subjective" discretion.

a	Responsibility, level of teaching post
b	Formal qualifications, merit
c	Leadership qualities
d	Capacity to display sound judgment
e	Action initiative
f	Financial responsibilities
g	Cooperativeness
h	Contributions to school development, efficiency and service quality

Table 4: Typical criteria determining individual teacher salaries.

Also a matter for negotiation today is the remuneration level of newly qualified teachers. Tenured teachers receive a salary during the summer holidays.

	Number	P10	P25	P50	P75	P90	Average
Total	5,821	15,264	16,498	17,646	18,564	20,223	17,851

Table 5: Salary rates for municipal vocational teachers, November 1995, in SEK; members of Swedish Teachers' Union (P = percentile) (1 ECU = 8.8 SEK).

Retirement

The retirement age for teachers is 65 years. Many vocational teachers, however, are now applying for early retirement at 60 years of age, this possibly being attributable to the reforms to upper secondary education and the consequent new demands on the profession. A full state retirement pension is payable after 40 years of residence in Sweden, though the amount depends on various factors, e.g. civil status, eligibility for a supplementary pension. A full retirement pension amounts to ca. 34,000 SEK. A supplementary pension is payable after 30 years of service and is calculated on the basis of the 15 highest annual salaries during that period. A teacher may also have supplementary municipal and private insurances. As far as early retirement is concerned, possibilities of having early retirement granted and the amount of pension payable to those whose application is approved differ from one municipality to another.

Appointment

Head teachers of upper secondary schools decide on staff appointments. Normally, applicants with an initial teacher training should be given preference, but if no such qualified persons apply, a head teacher can appoint an unqualified person. This may explain the recent rapid decline in the number of persons with a university degree appointed to teaching posts in upper secondary education.

1993/94	88.7%
1994/95	86.2%
1995/96	84.7%

Table 6: Percentage of vocational teachers holding a diploma.

The probability that this decline will continue to affect vocational teachers is beyond all doubt, since it is relatively common practice to staff certain vocational subjects with trainers hired for a limited number of hours. The ratio of untrained to trained teachers is said to be higher in the independent upper secondary sector than in the public sector, but no official statistics are available to corroborate this claim.

Author's remark

There is a possibility that the paths leading to vocational teaching posts in upper secondary education could change in future. There seems to be a need to clarify the role of vocational training within the framework of a more diversified range of post-compulsory learning options, and national policies for the training of teachers and trainers will naturally reflect the outcome of that clarification process. Improving the possibilities for vocational teachers to qualify to teach general academic subjects should be a national priority, for example by making special study grants available to vocational teachers wishing to expand their teaching competence to cover both a vocational subject and an academic subject.

4.2 Teacher unions

From the historical perspective, unions have played an important role in arriving at national agreements on terms of employment in schools. The two main unions for vocational teachers in the public education system are the Swedish Teachers' Union and the National Union of Teachers in Sweden. Recent union practice has demonstrated a shift from detailed, national agreements to a more general framework for local decision-making. Such a general framework agreement has recently been concluded with the employers' organization, the Swedish Association of Local Authorities. One provision contained therein specifies that a newly trained teacher starts his/her first teaching job on the basis of an automatic 12-month probationary appointment. This allows the employer to terminate the appointment before commencement of the second year. On completion of his/her probationary year the teacher is guaranteed a 'one-year salary', and after four further years of service a 'five-year salary'. In this framework agreement the social partners also stress that the information society is making lifelong learning necessary for everyone, including teachers, and that schools have a responsibility to strive to serve society as a model and driving force in this respect.

5 Training paths leading to qualification as a teacher or trainer

The Swedish Government is responsible for initial teacher training provision. Initial training for aspiring vocational teachers is dispensed at university level and is available at, e.g., Göteborg University, Lund University, the University of Umeå and Stockholm Institute of Education. The universities have local responsibility for admission procedures, curricula, syllabuses and diplomas. Assessment procedures take account of both work experience outside school (relevance, level of expertise, range of occupational experience, work duration) and educational achievements (certificates, high school and university credits).

5.1 Initial vocational teacher training

No pre-existing school affiliation is required of persons applying for initial teacher training, and teaching practice is arranged jointly by the university and municipality concerned. The teacher training for core subjects, vocational subjects and nursing subjects has been amalgamated by government decree. The 1993 Degree Ordinance provides for a single professional qualification: the University Diploma in Upper Secondary Education. Problems may arise in future if curriculum profiles become more diffuse, and development work is now being undertaken on teacher training programmes to improve interdepartmental cooperation.

Entrance level

Most applicants for vocational teacher training are required to have at least four years of occupational experience before embarking on the university course, although variations in formal educational requirements do exist depending on the occupation concerned. For example, an applicant to Göteborg University for a place on the vocational teacher course for upper secondary education wanting to teach the "automation" or "electronics" specialisms of the "electricity" national programme must hold a university diploma in engineering (lower level, 80 credits) and have at least four years of comprehensive and up-to-date skilled work experience. By contrast, prospective teachers of the "installation" specialism can be accepted for training with an upper secondary qualification (two-year course) and five years of comprehensive and up-to-date skilled work experience. The requirements for the "hairdressing" enrichment course are three years of upper secondary education, the journeyman (or master) qualification and five years of work experience.

Trainers in companies

There are no general regulations governing the qualifications of trainers in public organizations outside the school system: business organizations, education associations, labour market training schemes or adult education schemes for the unemployed. Some associations operate licensing systems pertaining to certain skills, and these can be regarded as having a regulatory function in the training environment, e.g. the Employers' Education Committee lays down rules to govern journeyman examinations which can be cross-referenced with national vocational qualifications.

Public-sector organizations such as hospitals, etc. and also many large enterprises run their own training of trainers courses or buy in such courses from commercial training providers, upper secondary schools or universities. No regulatory system exists at national level to govern teaching qualifications in this area of training.

Training of trainers

Many municipalities run a very short introduction to teaching course (one to five days) for trainers providing workplace instruction. This "tutors' course" is usually planned in cooperation with commerce and industry and in some cases with universities. Participants in some municipalities are awarded a course attendance certificate on completion of the course, though it is seldom that such a certificate has any impact on wage levels.

At local and regional level, matters relating to the training of trainers are settled by the education policy bodies within local and district associations.

Stringent demands on trainers' qualifications are common in many companies, e.g. those operating in the process industry or the nuclear power industry.

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Examples of university diplomas within higher education

Fire protection engineering
General engineering
Aviation
"Folk" high school education
Upper secondary education
General engineering: lower level
Marine engineering: lower level
Physiotherapy
Nursing
Marine engineering
Nautical science: master mariner level
Craft education
Nautical science: mate level

Examples of diplomas from the Swedish University of Agricultural Sciences

Agriculture
Horticulture
Forestry
Landscape architecture
Landscape construction and management
Agricultural and rural management
Forest engineering
Forest management
Horticultural management
Veterinary medicine.

Table 7: Professional degrees of interest to vocational teachers in upper secondary and post-secondary education.

5.2 National priorities for the training of trainers

The recruitment of additional science and technology teachers is regarded as a national priority. The report commissioned by the previous government entitled "Competence Requirements for Vocational Teachers in Upper Secondary Education" (SOU 1994: 101), listed several clear priorities in connection with the conclusion that the standards to be met in subject theory are becoming more demanding for teachers of both general and vocational subjects. Teachers of vocational subjects will be expected to meet new qualification requirements covering a broader area of expertise:

a a three-year upper secondary education in vocational subjects, including practical on-the-job training, plus general subject study;
b up-to-date expertise acquired during at least four years of occupational experience in a field relevant to vocational education;
c at least two years of study of relevant vocational theory at higher education level.

The comments forthcoming from various consultative bodies, e.g. employers' organizations, trade unions, teacher unions and universities, reflect their respective and conflicting perspectives. Some employers' organizations seem doubtful about whether teaching and training competence can be developed through a university education. By contrast, the Swedish Teachers' Union argues that an academic study programme is of vital importance in developing full competence among vocational teachers. Other commentators claim that corporate human resource development departments should plan company operations in such a way that the skills necessary to keep pace with technological and organizational change are generated in-house.

A report published by the Ministry of Education and Science (1994) provides some indications of the Government's current thinking. One inference is a need for a higher standard of general education among vocational teachers in upper secondary education. Another is further specialization in narrow vocational subjects within the national education system.

Teacher training is also under review (Ds 1996: 16), and a final official report on this issue is expected from the Ministry of Education and Science in the spring of 1997.

6 Initial training programmes for vocational teachers and trainers

The Higher Education Ordinance regulates university diplomas in Sweden. A 1996 amendment to the Degree Ordinance requires teachers to be familiar with the tools of information technology, a stipulation which concerns all teacher training programmes at university level. Another important amendment gives student teachers three alternative paths towards obtaining a university diploma:

a at least 180 credits (to include 80 credits in core subject theory or vocational subject theory plus 60 credits in subject theory in a second core or vocational subject);

b 160/100 credits (to include 60 credits in core subject theory or vocational subject theory plus vocationally oriented study at university college level to include 60 credits in a vocational subject);

c vocationally-oriented study at university college level including 60 credits in a vocational subject.

To obtain the diploma all students must have undertaken teaching practice under supervision and completed a course in practical pedagogy (40 credits). One credit corresponds to one week of study.

Alternatives b) and c) presuppose extensive occupational experience. If no relevant university college courses are available, other relevant vocational education can be counted in lieu.

Teacher training in subjects specific to the national upper secondary education programmes with a vocational focus is available at Göteborg University, Lund University and the Stockholm Institute of Education. Initial teacher training will also be available at the University of Umeå in the near future.

The amended Degree Ordinance also makes it possible for a vocational teacher to obtain a diploma which incorporates qualification in a core subject. At Umeå University ideas are being discussed for designing a two-subject initial teacher training course for applicants with occupational experience. It is plausible that head teachers of upper secondary schools would prefer to employ thus qualified teachers because of the call set out in the reform for closer cooperation between teachers of core subjects and vocational subjects.

6.1 Training in practical pedagogy in Göteborg

All teacher training programmes are required to include at least some instruction in practical pedagogy (40 credits). The following description of the course run by the Department of Vocational Education at Göteborg University is indicative of the provision available in this respect.

The course is intended for persons employed in the fields of commerce, administration, the construction industry, electrical and energy services, transport, trade crafts, the hotel and restaurant industry, the food industry, media, technical production, service industries etc., who wish to train either as upper secondary teachers or as instructors in any of the above fields.

Programme

The course prepares the student for the teaching profession and leads to the Diploma in Upper Secondary Education. It aims to provide basic knowledge and skills relevant to teaching needs in upper secondary and adult education, both within and outside the public-sector school system. The course covers the following subjects:

- pedagogy: promoting a scientific approach to education and the teaching process;
- didactics/methodology: preparing the student for specific teaching duties;
- teaching practice: practising and testing teaching ability;
- examination project: applying pedagogy and methodology to development work in vocational education at an upper secondary school.

In addition to developing knowledge and skills, the basic university course aims to equip the student with the capacity for independent and critical judgment and the ability to solve problems unaided and keep abreast of developments within the fields covered by the course. The course also aims to develop the student's ability to exchange information at a level commensurate with his/her academic studies.

The above-listed subjects are presented in two courses, each worth 20 credits and together comprising seven sub-courses:

Course 1: The Teaching Profession
- Society - school - the teaching profession
- Methodology and didactics
- Learning - development - relationships.

Course 2: Training for Professional Development
- Evaluation and educational measurement
- Perspectives on the teaching profession
- Degree project on development work in vocational pedagogy.

Objectives The study of pedagogy is intended to provide the student with an objective and scientific approach to matters which are of relevance to exercise of the teaching profession in vocational subjects in upper secondary and adult education. In order to consolidate this approach the student undergoes a programme of training in independent and critical thinking with reference to a) instruction in the light of pedagogic and socio-psychological theory; b) teaching principles; and c) conditions of particular relevance to the teaching profession. The study of pedagogy also aims to raise the student's willingness and capacity actively to contribute to the internal process of school development.

The study of methodology aims to enable the student to meet the demands of teaching by the informed use of the didactic methods presented during the sub-course. To ensure this and to guarantee that the student displays respect in his/her teaching for both people and the environment, elements of planning and evaluation methodology are included in the course, together with other methodologies relevant to teaching practice. The study of methodology also aims to shed light on the conditions and research and development activities which are of particular relevance to teaching the student's vocational subject.

The study of the practicalities of teaching aims to develop and test teaching skills. To this end actual teaching practice is included in addition to training in which the student - under supervision - assumes responsibility for planning, conducting and evaluating teaching.

The examination project aims to generate knowledge and skills within a specific development context related to vocational pedagogy. The purpose is partly to help the student cope with the demands imposed by the teacher's role as supervisor / instructor in upper secondary education and partly to stimulate interest in and an understanding of school development in a changing environment.

The teacher training courses for upper secondary education include a range of learning and working formats, such as lectures, class instruction, seminars, various forms of group work and private study. Studies can be arranged with or without reference to any specific subject area, and can also be conducted with or without teacher supervision. Work in all formats is examined.

Evaluation

Assessment of student performance is based in part on oral and written examination, with examination material designed to allow for measurement of individual performance. The overall assessment refers to both theoretical and practical expertise. To obtain a pass grade, the student must actively participate in both practical and theory activities, be awarded a pass grade in the assignments set for oral and written examination, and in all other respects display effort corresponding to full-time study. The student must moreover give evidence of total competence in expressing himself/herself in both spoken and written Swedish.

In accordance with the curriculum for the Diploma in Upper Secondary Education, the grades awarded are 'fail' or 'pass'.

6.2 Some remarks

The basic courses in practical pedagogy differ from one institution to another, their profile depending on numerous factors such as tradition, preferred target group and delivery format. One aspect which is important here is the extent to which collaboration has become established between the university teacher trainers who specialize in core subjects and vocational subjects respectively, and efforts are being made to design courses in practical pedagogy which enhance cooperation whilst maintaining qualification standards. The Stockholm Institute of Education, which conducts research in vocational education, has seen its findings in this respect permeate into teacher training at different levels. For example, the teacher training at Lund University qualifying to teach on the national programme on "child recreation" now combines new and old vocational profiles.

Teacher training is also available outside universities, including for corporate purposes. This field is part of the activity profile of the Stockholm Institute of Education. Göteborg University is currently running a pilot teacher training programme based on distance learning which is open to applicants from all over Sweden. Initial vocational teacher training is clearly developing into a role in which it can help bridge the gap between schools on the one hand and the business community on the other.

7 Continuing training of teachers and trainers

A national perspective

The Education Act stipulates that municipalities and county councils must draw up a plan for in-service training and staff development to be supervised by head teachers. The time to be spent on in-service training is not regulated on an individual basis, but a general agreement at national level suggests that an annual average of 104 hours should be spent on competence development. Municipalities and schools (head teachers) are responsible for allocating this resource to individual teachers. Teachers of vocational subjects have no facilities for taking sabbatical years, though in a bid to lower unemployment rates the Government is currently debating a reform which could lead to a sabbatical year for all teaching staff. The state could also use in-service training as a means to promote goal-driven and result-oriented upper secondary education. Responsibility for developing and supporting innovative in-service programmes rests with the National Education Agency.

Further or continuing education to equip vocational teachers with the competence required for teaching general academic subjects has not been available in Sweden for many years. A barrier has long existed between these two sectors of education, though the new Examination Ordinance does re-open this possibility. It does not, however, go as far as providing for upgrading vocational teachers' general pedagogic knowledge and skills, for which there is still no general provision although some universities do offer so-called extension studies specifically for vocational teachers and others provide similar short courses equal to 5 to 20 credits for qualified teachers.

Further education up to doctorate level is available for vocational teachers in Södertälje/Stockholm, and the programme attracts a number of students. Doctorate programmes in vocational education are not yet available anywhere else, though further education courses available in Göteborg and Malmö entitle graduates to proceed to the doctorate course in education science. For vocational teachers, however, entry to these programmes seems to be difficult.

7.1 The Nordic Supplementary Study Programme in Vocational Education

A joint 40-credit further education programme financed by the Nordic Council of Ministers was initiated for the Nordic countries in 1990. The programme was run only once. Its content covered four examined areas of expertise:

a comparative studies in vocational education in the Nordic countries;
b the structure of working life and the structure of vocational education;
c innovation in vocational instruction: foundations and implications;
d preconditions for the initiation, implementation and evaluation of vocational education development work.

Four vocational educators from Sweden participated as students in the programme. In some of the Nordic countries, parallel programmes were implemented simultaneously for national vocational teachers.

7.2 The Supplementary Study Programme in Vocational Education at Göteborg University

A continuing education programme specifically designed for qualified vocational teachers and/or educators in commerce and industry is available at Göteborg University. It confers 41 to 80 credits.

Course 1: Fundamental issues in vocational education
This course aims to shed light on fundamental issues in vocational education by examining learning at school and in working life, highlighting field-specific curriculum problems and exploring the concepts of competence and qualification. The course provides orientation with regard to certain central concepts in vocational education and an in-depth understanding of their practical implications. The course is structured in four main sub-courses:

a Learning at school and in working life;
b Vocational curriculum studies;
c Competence and qualification;
d Integration of a to c above.

The first three components build up on each other in the sense that the focus moves progressively outwards from individual learning towards the learning environment. Skill demands are examined at the end of these units, with consideration being given to problems of knowledge, skills and ethics arising in different vocational contexts. An historical dimension is introduced into the sub-courses insofar as each is examined from past, present and future perspectives, though the main emphasis is on the present.

Course 2: Science and vocational education
This course examines the preconditions for vocational education research. Students have to be qualified vocational educators and have appropriate amounts of occupational and teaching experience. The course comprises two sub-courses:

a Research and development methodologies;
b Production of an independent research paper.

7.3 In-service training

One week of study for competence development and related activities is commonly arranged for each autumn and spring term, and the National Education Agency works actively to offer courses in a variety of fields. Its courses cater for all teachers, not only vocational teachers. For 1996/97 financial and other forms of support have been envisaged for the following in-service activities, to which both universities and university colleges can contribute:

- Ethics in practical application;
- Working with objectives and attainment targets;
- Student influence and work in school;

- Reading and writing development;
- Image and media;
- Internationalization;
- Information technology and teaching.

In-service education and training has traditionally been bought in by local municipal councils and schools, with lecturers being hired in or participants attending residential courses and seminars outside the region. But as schools have had less funding available for activities of this type in recent years, alternative forms of in-service training are now being tested. Discussions are under way to explore how schools can make and sustain developmental relations with other learning organizations and how in-house competence can be harnessed for in-service development activities.

7.4 Some policy trends

The Department of Vocational Education at Göteborg University claims that vocational teacher training will have to develop new ways of organizing study programmes and modify course content to suit changing circumstances. It has proposed that training courses for vocational teachers should offer the option of a slower rate of study and decentralized formats. With the spread of modern information technology, various forms of distance learning can facilitate study for adult students. A teaching career in vocational education does not currently offer career development opportunities comparable to those available in out-of-school working life, and there is some doubt whether the conventional teacher training formats are sufficiently attractive to persons with the necessary qualifications and the best aptitude for teaching.

8 Useful addresses

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Internet sites of relevance to vocational education: (see also section 9.1)
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http://www.sunet.se/skolnet/index.html
http://www.abo.fi/vocweb/

9 Institutions and courses

9.1 Departments of initial vocational teacher training

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Fax: +46 8 737 55 01
Web: http://www.lhs.se/

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Lärarhögskolan i Malmö
Institutionen för yrkespedagogik
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Göteborgs universitet [Göteborg University, Vocational Education Dept.]
Institutionen för yrkespedagogik
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9.2 Programmes for teachers in vocational education

Gymnasielärarprogram, 200 poäng
[Programme for upper secondary teachers: core subjects]

Gymnasielärarutbildning: Industri- och hantverk; Handel och administration, 40 p
[Programme for upper secondary teachers: industry and handicraft; business and administration]

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[Programme for upper secondary teachers: paramedical]

Hushållslärarprogram, 120 p
[Programme for home economics teachers]

Trafiklärarutbildning, 80 p
[Programme for road safety teachers]

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11 Acronyms and abbreviations

CVE&T	Continuing vocational education and training
IVET	Initial vocational training
KomVux	Municipal adult education
LADOK	National student records database at university level
Lpf 94	Curriculum for upper secondary education 1994
SCB	Statistics Sweden
SEK	Swedish Crowns
SOU	Official Government Report
YTH	Professional and technical higher education

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